

# STIC Search Report

### STIC Database Tracking Number, 203175

TO: Fred Ehichoya Location: RND 3B31

Art Unit: 2162

Friday, September 29, 2006

Case Serial Number: 10/808177

From: Byron T. Mims Location: EIC 2100

**RND-4B19** 

Phone: 272-3528

byron.mims@uspto.gov

## Search Notes

Fred

Enclosed are art findings that may be of interest. For the sake of expedited turnaround time, I have forgone tagging as well as highlighting all of the enclosed retrieved items. Let me know if there is anything in particular that you would like for me to pursue further.

**Byron** 





203175

# RUSH STIC EIC 2100 Search Request Form

patific & Technical information Center				
Today's Date: 9/28/06 What date Priority Da	e would you like to use to limit the search?  ate:			
Name FRED Emchity?  AU 2162 Examiner # 79719  Room # 3 8 31 Phone 2 - 403 4  Serial # 10 808,177  Is this a "Fast & Focused" Search Request? (Circle A "Fast & Focused" Search is completed in 2-3 hours (maxim meet certain criteria. The criteria are posted in EIC2100 and http://ptoweb/patents/stic/stic-tc2100.htm.	num). The search must be on a very specific topic and			
What is the topic, novelty, motivation, utility, or other specific details defining the desired focus of this search? Please include the concepts, synonyms, keywords, acronyms, definitions, strategies, and anything else that helps to describe the topic. Please attach a copy of the abstract, background, brief summary, pertinent claims and any citations of relevant art you have found.				
Is this request for a BOARD of APPEALS case? (Circle One) YES (NO)  - Storing a first portion of a first database table and a first partial of a second database table on a first wide, and storing a Second partial of a first database table and a second partial of a second database table on a second wide.  - generating a first join table from first portion of said first database table, and generating a second join table from a second said second portion of first database. Table.  - bompaning soid first portion of said second database table with said first join table, and comparing said second portion of said second database table with said second database table with said second from table to generale a first intermediate results file.				
SPE	M VO 2168			
Date picked up 124 Date Complete	Phone <u>2 - 3524</u>			



```
Description
        Items
Set
                DATABASE? OR DATABANK? OR DATA() (BASE? OR BANK? OR FILE? OR
       246945
S1
              REPOSITOR? OR WAREHOUSE?) OR DB OR RDB OR OODB OR ODBC OR DB-
             MS OR RDBMS
                S1(7N) (TABLE? OR FILE? ? OR COLLECTION? OR MATRI??? OR ARR-
S2
        48202
             AY?)
                S2(3N) (FRACTION? OR PART??? OR PORTION? OR SUBSET? OR FRAG-
         5306
S3
             MENT? OR PIECE? OR SEGMENT? OR DETAIL?)
                S2:S3(5N)(ONE OR FIRST? OR 1ST OR PRIMARY OR INITIAL? OR O-
S4
             RIGINAL? OR LEADOFF? OR MAIN OR CHIEF OR INTRODUCTORY?)
                S2:S3(5N)(SECOND OR II OR COUPLE OR 2ND OR TWICE OR ANOTHE-
S5
             R? OR TWIN OR TWO OR DIFFERENT OR ADDITIONAL OR 2)
                S2(5N)(JOIN??? OR COMBIN? OR ADD??? ? OR MERG??? ?)
S6
                S6(5N)(ONE OR FIRST? OR 1ST OR PRIMARY OR INITIAL? OR ORIG-
S7
             INAL? OR LEADOFF? OR MAIN OR CHIEF OR INTRODUCTORY?)
                S6(5N)(SECOND OR II OR COUPLE OR 2ND OR TWICE OR ANOTHER? -
S8
             OR TWIN OR TWO OR DIFFERENT OR ADDITIONAL OR 2)
                 (OUTPUT? OR OUTPUT?()DIAGNOSTIC? OR READOUT? OR READ()OUT?
      1607295
S9
             ? OR RESULT?)
                S9(7N) (GENERAT? OR PRODUC? OR CREATE? ? OR CREATING? OR CR-
       500910
S10
             EATION? OR PROPOGAT? OR DEVELOP? OR YIELD? OR CONSTRUCT???? ? -
             OR MAP??? ? OR MAPPING? ?)
                S9(7N) (ORIGINAT? OR MAKE? OR MAKING? OR INITIAT? OR INTROD-
       176558
S11
             UC? OR REPRODUCE? OR REPRODUCING? OR BUILD? OR BUILT? OR MANU-
             FACT?)
                DETERMIN? OR COMPAR? OR DISCERN? OR ASCERTAIN? OR ANALY? OR
      1581823
S12
               IDENT? OR CHECK? OR VERIF? OR JUDG???? ?
                MONITOR? OR EXAMIN? OR DETECT? OR UNCOVER? OR REVEAL? OR A-
      2294686
S13
             SSESS? OR EVALUAT? OR INSPECT? OR SCAN???
                 (S12:S13 (50N) S4 (25N) S7) (100N) (S12:S13 (50N) S5 (25N) S8)
          905
S14
                 S14 (100N) S10:S11
          220
S15
                 S15 AND (S12:S13(25N)S4(15N)S7)(20N)(S12:S13(25N)S5(15N)S8)
          217
S16
                 S16(100N)DATABASE?(100N)JOIN???(7N)(TABLE? ? OR FILE? ?)
            5
S17
                 S16 NOT S17
           212
S18
                 S18 AND DATABASE? ?
            79
S19
                S19 AND JOIN???(10N)(TABLE? ? OR FILE? ?)
             0
S20
                 S19(100N) JOIN???(10N) (TABLE? ? OR FILE? ?)
            2
$21
        97432
                 S1/TI, AB, CM
S22
                 S22(100N) JOIN???(10N) (TABLE? ? OR FILE? ?)
          176
S23
                 S23 (100N) DATABASE? ?
           140
S24
                 S24 (100N) (S12:S13 (10N) S4 (10N) S7)
S25
             4
           901
                 (S14 OR S22) (100N) (S12:S13(10N)S5(10N)S8)
S26
                 S26 (100N) (S12:S13 (7N) S4 (7N) S7)
           870
S27
                 S27 (100N) (S12:S13 (7N) S5 (7N) S8)
           870
S28
                 S28 AND DATABASE? ?(100N)JOIN???(10N)(TABLE? ? OR FILE? ?)
            22
S29
                 AU=(JARDIN C? OR JARDIN, C?)
            10
S30
                 CARY (2N) JARDIN
             5
S31
                 S30:S31 AND DATABASE? ?(100N) JOIN???(10N) (TABLE? ? OR FILE?
             0
S32
               ?)
                 S30:S31 AND JOIN???(10N)(TABLE? ? OR FILE? ?)
             0
S33
                 S30:S31(100N)DATABASE? ?(100N)JOIN???(10N)(TABLE? ? OR FIL-
S34
              E? ?)
                 S30:S31
S35
            10
File 348:EUROPEAN PATENTS 1978-2006/ 200638
          (c) 2006 European Patent Office
File 349:PCT FULLTEXT 1979-2006/UB=20060921UT=20060914
          (c) 2006 WIPO/Thomson
```

17/5,K/1 (Item 1 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS
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00810682

System and method for accessing cobol data with a cobol compatible structured query language

System und Verfahren zum Zugriffen auf Cobol Daten mit einer Cobol compatibelen SQL

Systeme et procede pour acceder a des donnees Cobal avec une SQL compatible Cobol

PATENT ASSIGNEE:

Unimark Holdings Limited, (2003290), 141 Des Voeux Road Central, Rooms 2102-3, International Buildings, Hong Kong, (HK), (applicant designated states: DE;FR;GB)

**INVENTOR:** 

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LEGAL REPRESENTATIVE:

Lawrence, John (60371), Barker, Brettell & Duncan, 138, Hagley Road, Edgbaston, Birmingham B16 9PW, (GB)

PATENT (CC, No, Kind, Date): EP 753819 A1 970115 (Basic)

APPLICATION (CC, No, Date): EP 95304837 950711;

PRIORITY (CC, No, Date): EP 95304837 950711

DESIGNATED STATES: DE; FR; GB

INTERNATIONAL PATENT CLASS (V7): G06F-017/30;

#### ABSTRACT EP 753819 A1

A system (10) and method enabling use of a COBOL compatible structured query language (CCSQL) to manipulate data stored in a COBOL data file (90), which is in a non-first normal, hierarchical format. Initially, a dictionary generator subsystem (68) creates a corresponding dictionary (74) for each COBOL data file (90). In the dictionary (74), the NF2) hierarchical logical relationship between the items and attributes (hierarchical nature) of each item of a COBOL data file are defined. Thereafter, whenever a new COBOL data file is produced, a corresponding dictionary is generated. When a user enters a request in the CCSQL format to query a COBOL data file, the request is parsed. The definitions in the dictionary are used by the CCSQL kernel (78) to manipulate the data in response to the user's query. A command interpreter (64) processes the request to determine the appropriate data manipulation to apply and initiates a CCSQL kernel request that carries out the intended action, with reference to the corresponding dictionary (74). For example, the request may require that certain items from a COBOL data file be extracted to produce a report (82). Because the hierarchical logical relationships between the items in the COBOL data are defined in the corresponding dictionary, a CCSQL report generator subsystem can produce the report using data extracted from the COBOL data file in accordance with criteria provided by the user, but without converting the data in the COBOL data files to a 1NF. COBOL programs with embedded CCSQL commands are preprocessed to convert the CCSQL commands to a COBOL compatible structured language that uses the dictionaries to access data referenced in the COBOL data files.

ABSTRACT WORD COUNT: 276

LEGAL STATUS (Type, Pub Date, Kind, Text):

Examination: 020626 Al Date of dispatch of the first examination

report: 20020508

Application: 970115 A1 Published application (Alwith Search Report

;A2without Search Report)

Withdrawal: 030521 A1 Date application deemed withdrawn: 20021119

Examination: 970917 Al Date of filing of request for examination: 970712

LANGUAGE (Publication, Procedural, Application): English; English; English FULLTEXT AVAILABILITY:

Available Text Language Update Word Count
CLAIMS A (English) EPAB97 1509
SPEC A (English) EPAB97 8236
Total word count - document A 9745
Total word count - document B 0
Total word count - documents A + B 9745

- CLAIMS 1. A method for manipulating data stored in COBOL data files that are normally accessed using a COBOL procedural language, so as to allow direct...
- ...appropriate one of a plurality of predefined data manipulation operations that act on the COBOL data file; and
  - (iv) report means for producing a data output that is responsive to the request...
- ...the user, said data output comprising a report that includes selected items from the COBOL data file;
  - (b) a keyboard on which the user enters the request, said keyboard being electrically coupled...
- ...for defining the NF2) hierarchical logical relationship and attributes of each item in the COBOL data file;
  - (b) data manipulation language subsystem means for implementing operations, including at least one of inserting, deleting, updating, selecting, and retrieving items of the COBOL data file in accordance with the request input by the user;
  - (c) query process subsystem means for deriving a resultant table of data items by selecting specific items from at least one COBOL data file in accordance with specified criteria that are provided in the request input by the user...

#### ...file:

- (i) a NF2) hierarchical logical relationship between levels of items comprising the COBOL data **file**; and
- (ii) attributes for each item;
- (b) means for parsing a request entered by a...

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25/5,K/2
             (Item 1 from file: 349)
DIALOG(R) File 349:PCT FULLTEXT
(c) 2006 WIPO/Thomson. All rts. reserv.
            **Image available**
METHOD AND APPARATUS FOR RESTRICTING ACCESS TO A DATABASE ACCORDING TO USER
    PERMISSIONS
PROCEDE ET DISPOSITIF DE RESTRICTION D'ACCES A UNE BASE DE DONNEES EN
    FONCTION D'AUTORISATIONS UTILISATEUR
Patent Applicant/Assignee:
  HPL TECHNOLOGIES INC, Suite 400, 2033 Gateway Place, San Jose, CA 95110,
    US, US (Residence), US (Nationality)
  GHUKASYAN Hovhannes, 155 Pacchetti Way, Mountain View, CA 94040, US,
  LEPEJIAN Yervant D, 920 Ramona Street, Palo Alto, CA 94301, US,
Legal Representative:
  WILBAR William P (agent), Sierra Patent Group, Ltd., P.O. Box 6149,
    Stateline, NV 89449, US,
Patent and Priority Information (Country, Number, Date):
  Patent:
                        WO 200388084 A1 20031023 (WO 0388084)
  Application:
                        WO 2003US10561 20030402 (PCT/WO US0310561)
  Priority Application: US 2002115196 20020402
Designated States:
(Protection type is "patent" unless otherwise stated - for applications
prior to 2004)
  AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ
  EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR
  LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SD SE SG SK
  SL TJ TM TN TR TT TZ UA UG UZ VN YU ZA ZM ZW
  (EP) AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LU MC NL PT RO SE
  (OA) BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG
  (AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZM ZW
  (EA) AM AZ BY KG KZ MD RU TJ TM
Main International Patent Class (v7): G06F-017/30
Publication Language: English
Filing Language: English
```

Fulltext Availability:

Detailed Description

Claims

Fulltext Word Count: 7361

#### English Abstract

A method and apparatus for restricted access to a database according to user permissions are described. A user permissions file (1007) residing on a server includes information of permissions related to database records, and which of those permissions are associated with individual users. A permissions manager (1006) also residing on the server manages user queries (1002) either directly by generating restricted queries (1008) that reflect only authorized access to database records for the user generating the query, or indirectly by downloading a permissions filter or information for a restricted parameters screen to the user's client, so as to generate the restricted query (1008) on the client. In any case, a database management system (1001) residing on the server receives the restricted query (1008) and generates a result (1003) by accessing only authorized database records for the user, and communicates the result (1003) back to the user's cleint.

#### French Abstract

L'invention concerne un procede et un dispositif de restriction d'acces a une base de donnees en fonction d'autorisations utilisateur. Un fichier

d'autorisations utilisateur (1007) residant sur un serveur contient des informations d'autorisations liees a des donnees de base de donnees, lesdites autorisations etant associees a des utilisateurs individuels. Un gestionnaire d'autorisations (1006) residant egalement sur le serveur gere des requetes utilisateur (1002) de facon directe par production de requetes restreintes (1008) caracterisant uniquement l'acces autorise a des donnees de base de donnees pour l'utilisateur effectuant la requete, ou de facon indirecte par telechargement vers l'abonne d'un filtre d'autorisations ou d'informations concernant un crible de parametres restreints, de maniere a produire la requete restreinte (1008) au niveau de l'abonne. Dans tous les cas, un systeme de gestion de base de donnees (1001) residant sur le serveur recoit la requete restreinte (1008) et produit un resultat (1003) par acces a des donnees de base de donnees autorisees pour l'utilisateur, et retourne le resultat (1003) a l'abonne.

Legal Status (Type, Date, Text)
Publication 20031023 A1 With international search report.

Fulltext Availability: Claims

Claim

... said client computer over a secure connection.

34 A method for restricting access to a **database** according to user permissions, comprising:

receiving a user identification provided by a user of a...

...said computer is further

configured to: extract a first set of tables associated with said database query by parsing said database query; extract a second set of tables from said permissions associated with said user identification that restrict access by said user to only authorized database records in said database; merge said first set of tables and said second set of tables to generate a merged set of tables; determine additional tables as necessary forjoining of said merged set of tables; modify said FROM clause to include said additional tables and said merged set of tables; and modify said WHERE clause to include additional join conditions as necessary for joining of said merged set of tables.

40 A method for restricting access to a **database** according to user permissions, comprising:

generating information of permissions related to **database** records; and generating information of users and associated permissions from said information of pern-tissions so that access to said **database** records is restricted according to said information

of users and associated permissions.

41 A method for restricting access to a **database** according to user permissions, comprising providing a computer executable program including program code for facilitating...

...of users and associated permissions from said information of permissions so that access to said **database** records is to be restricted according to said information of users and associated permissions.

17

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25/5,K/4
             (Item 3 from file: 349)
DIALOG(R) File 349: PCT FULLTEXT
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00470868
PLATFORM-INDEPENDENT
                       UNIVERSAL
                                   DATA ACCESS SYSTEM AND
                                                              METHOD
    CLIENT-SERVER ENVIRONMENT
SYSTEME ET PROCEDE UNIVERSELS D'ACCES AUX DONNEES, INDEPENDANTS DE LA
    PLATE-FORME, DANS UN ENVIRONNEMENT CLIENT-SERVEUR
Patent Applicant/Assignee:
  SANGA INTERNATIONAL INC,
  MAINE Shaun P J,
  LUSSIER Mark J.
  STEVENS Andrew G,
Inventor(s):
  MAINE Shaun P J,
  LUSSIER Mark J,
  STEVENS Andrew G,
Patent and Priority Information (Country, Number, Date):
  Patent:
                        WO 9901802 A2 19990114
  Application:
                        WO 98US13794 19980701 (PCT/WO US9813794)
  Priority Application: US 97886186 19970701
Designated States:
(Protection type is "patent" unless otherwise stated - for applications
prior to 2004)
  AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GE GH GM
  GW HR HU ID IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW
  MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG US UZ VN YU ZW
  GH GM KE LS MW SD SZ UG ZW AM AZ BY KG KZ MD RU TJ TM AT BE CH CY DE DK
  ES FI FR GB GR IE IT LU MC NL PT SE BF BJ CF CG CI CM GA GN ML MR NE SN
Main International Patent Class (v7): G06F-013/14
International Patent Class (v7): H04L-009/00
Publication Language: English
Fulltext Availability:
  Detailed Description
  Claims
Fulltext Word Count: 19981
```

#### English Abstract

A data access system (100) and method provides platform independent access from a client module (101) to a variety of data sources (108) stored in a variety of data formats on a variety of computer systems, including database sources and electronic mail sources (112). The system includes a desktop client module (104) that is a Java applet (105) that runs within a Java-compliant browser (104) located on a client computer (101). The desktop client module provides access to any one of a plurality of data sources, each represented as a book (200) on the client desktop. Access of the data associated with a book is implemented using a data access service application running on a server computer (102) in communication with the desktop client. The data access service application (106) includes a data source interface (107) that stores metadata associated with each book. Accessed data is presented in a customized viewing format as (127) as specified by various views (204) and forms associated with each book.

#### French Abstract

L'invention concerne un systeme et un procede d'acces aux donnees qui permet d'avoir acces, independant de la plate-forme, depuis un module client, a diverses sources de donnees stockees sous diverses structures de donnees sur divers systemes informatiques, y compris des sources de bases de donnees et des sources de courrier electronique. Ce systeme comprend un module bureau client qui est une mini-application Java tournant sur un navigateur compatible Java, situe sur un ordinateur client. Le module bureau client permet d'acceder a n'importe quelle source de donnees parmi plusieurs, chacune etant representee sous la forme d'un livre sur le bureau client. L'acces aux donnees associees a un livre se fait au moyen d'une application de services d'acces aux donnees tournant sur un ordinateur serveur en communication avec le bureau client. L'application de services d'acces aux donnees comprend une interface source de donnees qui stocke les metadonnees associees a chaque livre. Les donnees auxquelles on accede sont presentees dans un format d'affichage personnalise, tel que specifie par divers affichages et diverses formes associees a chaque livre.

Fulltext Availability: Claims

#### Claim

.. method of claim 10 further comprising:
providing a user interface for identifying a data source;
determining the physical storage information associated with the identified data source;
generating metadata from the determined physical storage information; and
- 100 storing the metadata.

15 The method of claim 14 wherein the identified data source identifies data stored in **first** and second **tables** in a **database** and includes a **table join** condition.

16 The method of claim 14 wherein the identified data source is an electronic...

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(Item 4 from file: 348)
 29/5,K/4
DIALOG(R) File 348: EUROPEAN PATENTS
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01640981
FAST HASH-BASED MULTIMEDIA OBJECT METADATA RETRIEVAL
SCHNELLES HASH-BASIERTES METADATENRETRIEVAL FUR MULTIMEDIAOBJEKTE
RECUPERATION RAPIDE DE METADONNEES D'UN OBJET MULTIMEDIA BASEE
SUR LE
    HACHAGE
PATENT ASSIGNEE:
  Koninklijke Philips Electronics N.V., (200769), Groenewoudseweg 1,
5621
       Eindhoven, (NL), (Proprietor designated states: all)
INVENTOR:
  HAITSMA, Jaap, A., Prof . Holstlaan 6, NL-5656 AA Eindhoven, (NL)
LEGAL REPRESENTATIVE:
  Groenendaal, Antonius W. M. (59381), Philips Intellectual Property &
    Standards P.O. Box 220, 5600 AE Eindhoven, (NL)
PATENT (CC, No, Kind, Date): EP 1474760 A1 041110 (Basic)
                              EP 1474760 B1 051207
                              WO 2003067467 030814
                              EP 2003701639 030127; WO 2003IB260
APPLICATION (CC, No, Date):
030127
PRIORITY (CC, No, Date): EP 200275501 020206
DESIGNATED STATES: AT; BE; BG; CH; CY; CZ; DE; DK; EE; ES; FI; FR; GB;
  HU; IE; IT; LI; LU; MC; NL; PT; SE; SI; SK; TR
EXTENDED DESIGNATED STATES: AL; LT; LV; MK; RO
INTERNATIONAL PATENT CLASS (V7): G06F-017/30
CITED PATENTS (EP B): EP 955592 A; WO 1/62004 A; WO 1/88900 A; US
5918223 A
CITED REFERENCES (EP A):
                          03067467A1;
  See references of WO
CITED REFERENCES (EP B):
  ALLAMANCHE, E., HERRE, J. ET AL: "Content-based Identification of
Audio
    Material Using MPEG-7 Low Level Description" PROCEEDINGS SECOND
ANNUAL
    INTERNATIONAL SYMPOSIUM ON MUSIC INFORMATION RETRIEVAL 2001, 15 -
    October 2001, pages 1-8, XP002198244 Paris, France
  HAITSMA, J., KALKER, T., OOSTVEEN, J.: "Robust Audio Hashing for
Content
    Identification" PROCEEDINGS INTERNATIONAL WORKSHOP ON CONTENT-BASED
    MULTIMEDIA INDEXING, 19 - 21 September 2001, pages 1-8, XP002198245
    Brescia, Italy cited in the application
  HAMPAPUR, A, BOLLE, R.: "Feature Based Indexing for Media Tracking"
    PROCEEDINGS INTERNATIONAL CONFERENCE ON MULTIMEDIA AND EXPO 2000
     (ICME-2000), 30 July 2000 (2000-07-30) - 2 August 2000 (2000-08-
 02),
    pages 1709-1712, XP002198246 New York, USA;
 NOTE:
  No A-document published by EPO
 LEGAL STATUS (Type, Pub Date, Kind, Text):
 Application: 031008 A1 International application. (Art. 158(1))
```

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031008 Al International application entering European
Application:
                            phase
                  041110 Al Published application with search report
Application:
                  041110 Al Date of request for examination: 20040906
Examination:
                  050330 Al Date of dispatch of the first examination
Examination:
                            report: 20050210
                  051207 B1 Granted patent
Grant:
                  060607 B1 Title of invention (German) changed:
Change:
20060607
                  060607 B1 Title of invention (English) changed:
 Change:
20060607
                  060607 B1 Title of invention (French) changed:
 Change:
20060607
                  060705 B1 Title of invention (German) changed:
 Change:
20060705
                  060705 Bl Title of invention (English) changed:
 Change:
20060705
                  060705 B1 Title of invention (French) changed:
 Change:
20060705
                  060816 B1 Title of invention (German) changed:
 Change:
20060816
                  060816 Bl Title of invention (English) changed:
 Change:
20060816
                  060816 B1 Title of invention (French) changed:
 Change:
20060816
                  060823 B1 Title of invention (German) changed:
 Change:
20060823
                   060823 B1 Title of invention (English) changed:
 Change:
20060823
                   060823 B1 Title of invention (French) changed:
 Change:
20060823
                   060830 B1 Title of invention (German) changed:
 Change:
20060830
                   060830 B1 Title of invention (English) changed:
 Change:
20060830
                   060830 B1 Title of invention (French) changed:
 Change:
20060830
                   060906 B1 Title of invention (German) changed:
 Change:
20060906
                   060906 Bl Title of invention (English) changed:
 Change:
20060906
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 Change:
20060906
                   060920 B1 Title of invention (German) changed:
 Change:
 20060920
                   060920 B1 Title of invention (English) changed:
 Change:
20060920
                   060920 Bl Title of invention (French) changed:
 Change:
 20060920
LANGUAGE (Publication, Procedural, Application): English; English;
 English
 FULLTEXT AVAILABILITY:
                            Update
                                       Word Count
 Available Text Language
                            200549
                                         490
                 (English)
       CLAIMS B
                                         508
                            200549
                  (German)
       CLAIMS B
                            200549
                                         609
                  (French)
       CLAIMS B
                                        5481
                 (English)
                            200549
       SPEC B
```

Total word count - document A 0
Total word count - document B 7088
Total word count - documents A + B 7088

...SPECIFICATION account when designing the tables in the database 121. In

the embodiment shown in Fig. 2 , the database 121 comprises a single table with entries (records) comprising respective fingerprints and sets

of metadata.

Another way to realize the **database** 121 is to set up several tables

. A first table comprises a plurality of unique identifiers (primary

keys) each associated with respective sets of metadata. Such tables can

be obtained from various music identification sources. The combination

of artist, title and year of release could be combined to form a unique

identifier , although this is not guaranteed to be unique, so
preferably

a really globally unique value...

...then set up with entries comprising for each multimedia object its fingerprint and its unique **identifier** from the first table. If multiple

fingerprints are possible for one multimedia object, all these fingerprints are stored in the second table, all associated with the

unique identifier for that multimedia object.

The DBMS backend module 203 then matches the fingerprint computed by

the fingerprinting module 202 against the fingerprints in the second table, obtains an **identifier** and matches the **identifier** against

first table to obtain the metadata. If the database 211 is an SQL database, the two tables could be "joined" (in SQL terms) on the identifier.

The DBMS backend module 203 feeds the results of the query to the response module...

 $\ldots$ mobile phone, then the telephone number can be obtained through Caller

ID or Automatic Number **Identification** or similar means. The input module 201 then supplies the calling number to the response...

29/5,K/6 (Item 6 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS
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#### 00966565

Method and apparatus for performing a join query in a database system Verfahren und Einrichtung zum Ausfuhren einer Verbindungsabfrage in einem

Datenbanksystem

Methode et dispositif por realiser des requetes de jointures dans un syseme

de bases de donnees

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APPLICATION (CC, No, Date): EP 98302804 980407;

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DESIGNATED STATES: BE; CH; DE; ES; FR; GB; IE; IT; LI; NL; SE

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INTERNATIONAL PATENT CLASS (V7): G06F-017/30

#### ABSTRACT EP 877327 A2

A computer implemented method for generating a response to a join.
Two

tables are divided into fragments. A join fragment map identifies, for

each respective fragment from the first table, the fragments from the second table which contain a record that satisfies the join predicate with a record from the respective fragment from the first table. The

is used to eliminate fragments which cannot satisfy the join predicate.

ABSTRACT WORD COUNT: 70

NOTE:

Figure number on first page: 1

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#### SPECIFICATION

Background

The present invention relates generally to  $\mbox{ database }$  systems, and  $\mbox{more }$ 

particularly to methods and apparatus for the processing of queries having join...

...in the same state as their residence. A join query must include at least

one  $\ensuremath{\mathsf{join}}$  predicate to specify the criteria to select records from the

two tables (e.g., that...

...of the customer be the same as the state in which the transaction occurred). A **join** query may also include one or more single-table predicates to select records from the individual tables.

To perform a **join** query, a conventional **database** system examines

every record in the second table for each record in the first table to

determine whether any records satisfy the join predicate. Such records

may be said to "match." The database system then constructs a query table from the matching records.

In many circumstances, conventional **database** operations may be unacceptably slow when performing a **join** query. Several techniques have

been developed to reduce the time required to process **join** queries.

technique to improve the performance of a  $\verb"join"$  query is to reduce the

amount of data searched by the database system. In particular,

records that cannot satisfy the join predicate should be eliminated from both tables of the query. An example of such a... ...r < 10; ( Example 1) This query attempts to find all records that satisfy the join predicate R.r = S.s. Since records from Table R must also satisfy the predicate... ...since R.r must equal S.s, by applying the algebraic rule of transitivity, the database system can determine that matching records of Table S must also satisfy the condition S.s < 10. After deducing the predicate on S, the database system may apply predicate to eliminate records from the scan of S that cannot... ...records satisfy the criteria. A 'scan' is the process of reading a fragment of a table . Fragments may be stored independently on separate disks or on separate nodes in cluster... ... Fragment elimination' is a process by which the database system can identify fragments from a table that cannot participate in the result of the query and remove those fragments from consideration...network. The computer system 10 includes a database 30 for storing and processing data. The database 30 may be centralized on a single computer, or it may be distributed across the computer network. Typically, the database 30 will be managed by a database management system 38 running on a computer linked to the database, either permanently or transiently, although in this illustration the database management system is shown as running on the computer 12. The invention will be illustrated using a database configured to store information for a credit card company. The database 30 is a relational database with a customer table ("Table R") 32 and a transaction table (" Table S") 34. In addition, the database 30 includes a join fragment map 36 bitmap (discussed below with reference to Figures 5-6). The database 30 may also include other resources, such as rules for interacting and manipulating objects, index tables, interpreters to execute query requests (not shown). Referring to Figure 2A, the customer table 32 includes a record for each customer. Each record 40 includes a customer number... ...R.state) 46, and a credit card expiration month field (R.month) 48:

customer table 32 is partitioned into twelve fragments, one for

each

expiration month. Each fragment contains records...

...59. The customer number fields 42 and 59 may be used as keys to link Table S to Table R. For these illustrations, the transaction table

fragmented into fifty...fragments from Table R by applying known single-table techniques.

To eliminate other fragments, the database system generates or accesses the join fragment map 36. The join fragment map 36 indicates

which fragments from the two tables do not contain records which can satisfy the join predicate and need not be searched during the query

execution. Thus, the join fragment map is specific both to the

of the database and the join predicate. If the content of the database changes, the join fragment map may become invalid. The

fragment table 36 may be stored as a bitmap, as multiple fieldfragment

maps, or...

...structure that indicates which pairs of fragments do not contain records

that can satisfy the join predicate. The join fragment map may be composed from two field-fragment maps 60 and 70 (see Figures 3A and

for the two tables in the query. The join fragment map may be implemented in a database system using a relational, hierarchial, object-oriented, or non-relational database .

Referring to Figure 3B, the database system 30 generates or accesses a

field-fragment map...

...match the state. For example, field-fragment map 70 includes a list

fragments from Table S that contain records with S.state = "CA", a

of fragments that contain records...

...3A, the database system 30 generates or accesses a similar field-fragment map 60 for Table R. The field-fragment map 60 also includes an entry 62 for each state. Each entry 62 matches a particular

state 64 to a list 66 of fragments from Table R that contain records

that match the particular state. There should be fifty entries 62...

...66 will contain at most twelve fragment numbers because there are

twelve fragments in Table R.

Referring to Figures 3A and 3B, by reading the first row of the field-fragment maps 60 and 70 together, the database system may determine that some records from certain fragment numbers (4, 5, 9 and

- 12) of Table R will match some records from certain fragment numbers
  - (2, 4, 7, 27 and 39) of Table S. Similarly, by reading from the

second row of each map, the database system may determine that records certain fragment numbers (1, 2, 7, 9 and 11) of Table R will match records from certain fragment numbers (5, 7, 27, 30, 31 and 45) of Table

Referring to Figure 4, the join fragment map may be composed of a single fragment-fragment map 80, formed by combining...

...the state columns 64 and 74 from the two field-fragment maps. The fragment-fragment join map 80 will contain twelve entries 82, i.e.,

entry for each fragment of Table R. Each entry 82 will include a list

86 of fragment numbers from Table S that contain records that

join predicate with records from the associated fragment 84 of Table

For example, the first entry has a list of fragments (5, 7, 27, 30,

45) from Table S that contain records that satisfy the join predicate with one or more records from...

...bit (shown as shaded in the Figure) denotes that some record in the fragment of Table S will join with the corresponding fragment of

R. The bitmap 90 may be...only six fragments of Table S need be scanned.

Similarly, if the record fetched from Table R is fromfragment #12,

only five fragments from Table S need be scanned, namely fragments

#4, #7, #27 and #39. The creation of ...

... A user can explicitly create a bitmap using the data definition

for a given database in similar fashion to the creation of an index.

The database system can implicitly create a bitmap when a foreign

relationship is specified as an integrity constraint. The system can exhaustively search for joins between tables that yield sparse bitmaps.

In all of these cases, the system can use sampling to...

...the percentage of bits that are turned on in a bitmap indicating fragments from two tables that have matching tuples.

To generate (or build) the bitmap 90, the database system executes a

'simplified query' based on the original query. The simplified query contains the same join predicate as the original query, but none of

single- table predicates. For example, the simplified query for the query of Example 3 is:

...S.state (Example 4)

Executing the simplified query returns the corresponding fragment numbers from each **table** that contain matching records. The bitmap 90

may be generated directly, without generating the intermediate join
map

80 described above. Various techniques may be used to increase the speed

with which...

...query is executed. Preferably, the necessary fields of the records from

the first or second table are retrieved from the leaves of a table index rather than from the table itself. In addition, column indices

can be used, if they exist. As another example, information...

...of the simplified query, once a match has been made between fragments

from the two  $% \left( 1\right) =\left( 1\right) ^{2}$  tables , other records need not be searched for the same

match.

The creation of a bitmap...

...too full, i.e., non-sparse, indicating that records from a fragment of

the first table have corresponding matching records in a large percentage of the fragments from the second table...bitmap B2) can be used to eliminate fragments from Table R again. In general, the database

system would begin by using single-table fragment elimination to eliminate fragments from Tables R...

...bitmap B2 is used against Table S to eliminate fragments in Table T.

Then the database system uses the newly eliminated fragments in

Table T

to reduce Table S again, and...

...it uses the newly eliminated fragments in Table S to reduce Table R again. The database system continues to repeat this procedure until no

more fragments can be eliminated from any table.

The database system should pick the former procedure if join queries between Tables R and T are common since that procedure results

in generating bitmap B3 (without explicitly...

...simplified bitmap query") which can be stored and used later. On the other hand, the database system should pick the latter procedure if the

join queries between Tables R and T are relatively rare and do
not

warrant the overhead of maintaining bitmap B3.

Since the **join** fragment map is generated from the result of an actual

join query, i.e., since the map depends upon the actual data in the tables , its usefulness is diminished or even destroyed when the underlying tables are modified.

If records have been deleted from one or both  $\ \, \mbox{tables}$  , the bitmap can

still be used. Performance may be less than ideal as the database system may search fragments that no longer have matching records.

If records have been added or updated in one or both tables , the integrity of the bitmap may be destroyed. If the added or modified value

now...the bitmap as invalid if data modification occurs to one or both of

the underlying tables which invalidates the previous bitmap. The executor 200 uses the bitmap to perform dynamic co...no additional fragments were marked as inactive from Table R, then in step 136 the database system returns to the optimizer rather than proceeding to be

subroutine 140 to optimize Table...

...172). A simplified query is then constructed (step 174). The simplified

query contains the same  $\ensuremath{\mathsf{join}}$  predicate as the query presented by the

user, but all single-table predicates are removed...

...the dictionary manager subroutine 190 is called (step 180), the locks

are released, and the **database** system returns to the optimizer (step

182).

Referring to Figure 12, the dictionary manager 190 begins by determining whether a previous bitmap has been created for the join predicate of the current query (step 192). If a previous bitmap exists,

then the old...

...this query, then the step of discarding the previous bitmap may be skipped. Finally, the database system returns to the bitmap generator

subroutine (step 198).

Referring to Figure 13, executor 200 is called when the database system executes the join query in step 106 (see Figure 7). In brief,

the executor receives a record from...

 $\ldots$ although Tables R and S could be switched in the operations discussed

below. Then the database system uses the join fragment map to identify the fragments of Table S that should be scanned for matching records (step 204). Specifically, if the join fragment map is a bitmap,

the **database** system accesses the bit at a row equal to the fragment number of Table R and a column equal to the fragment number of **Table** 

to determine whether that pair of fragments contain records which satisfy

the  ${\tt join}$  predicate. The identified fragments of  ${\tt Table}$  S are scanned

for records that satisfy the join predicate (step 206). These records

are collected (step 208) and returned to the user (step...

...200 can be carried out in a looped process in which each active fragment

from Table S is examined, the bitmap is used to determine whether the

fragment should be scanned...

- ...CLAIMS preceding claim, further comprising the steps of receiving or accessing a record from the first table; and scanning the identified fragments for records that satisfy the join predicate with the received record.
  - 12. A method as claimed in claim 11, further comprising the step of selecting a fragment containing a record which satisfies the join predicate.
- 13. A method as claimed in any preceding claim, wherein the join query
- is intended to be executed in relational database which

are separable into fragments.

- 14. A method as claimed in any preceding claim, wherein the step of creating comprises
  - executing a simplified query having at least part of the join predicate.
- 15. A method as claimed in any preceding claim, wherein the join fragment map is a bitmap having a bit for each pair of fragments
- of the first and second tables and the method comprise the step of creating the bitmap having a bit for each pair of fragments of the first

and second tables .

16. A method as claimed in claim 15, further comprising the steps of determining whether...

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(Item 8 from file: 348)
 29/5,K/8
DIALOG(R) File 348: EUROPEAN PATENTS
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00485379
Methods and apparatus for accessing non-relational data files
using
    relational queries.
Verfahren und Gerate im mit relationellen Abfragen auf nicht
relationelle
    Dateien zuzugreifen.
Procedes et dispositifs pour acceder aux fichiers non-
relationels en
    utilisant des interrogations relationelles.
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                              EP 490465 A3 940119
                              EP 91306091 910704;
APPLICATION (CC, No, Date):
PRIORITY (CC, No, Date): US 623762 901207
DESIGNATED STATES: DE; FR; GB; IT
INTERNATIONAL PATENT CLASS (V7): G06F-017/30
CITED REFERENCES (EP A):
  IBM TECHNICAL DISCLOSURE BULLETIN. vol. 19, no. 11, April 1977, NEW
YORK
    US pages 4404 - 4406 L. LEVY: 'Generalized technique for
    storage-independent data-accessing interface'
  REVIEW OF THE ELECTRICAL COMMUNICATIONS LABORATORIES vol. 29, no. 1-
    January 1981, pages 32 - 50 S. HANATA ET AL: 'Conversational
Database
    Query Language'
  AFIPS 1984 NATIONAL COMPUTER CONFERENCE 9 July 1984, LAS VEGAS, US
    537 - 545 M. RUSCHITZKA ET AL : 'Sibyl: A relational database
    with remote-access capabilities';
ABSTRACT EP 490465 A2
    A relational data access facility allows relation-type queries to
```

access data stored in non-relational data files by converting

relational

queries into a set of common commands which are sent to data drivers to obtain the data specified by those queries. The facility uses metadata which describes the organization of the data in the non-relational files, and examines the expressions in the relational queries to formulate access plan for the data. The plan is formulated to reduce cost and promote efficiency. (see image in original document) ABSTRACT WORD COUNT: 88 LEGAL STATUS (Type, Pub Date, Kind, Text): 000830 A2 Date application deemed withdrawn: 20000201 Withdrawal: 20000202 A2 Title of invention (German) changed: Change: 19991214 920617 A2 Published application (Alwith Search Report Application: ; A2without Search Report) 920617 A2 Date of filing of request for examination: Examination: 910719 940119 A3 Separate publication of the European or Search Report: International search report 980624 A2 Date of despatch of first examination Examination: report: 980507 990107 A2 International patent classification Change: (change) LANGUAGE (Publication, Procedural, Application): English; English; English FULLTEXT AVAILABILITY: Word Count Update Available Text Language CLAIMS A (English) EPABF1 1715 13940 (English) EPABF1 SPEC A Total word count - document A 15655 Total word count - document B 15655 Total word count - documents A + B ... SPECIFICATION generator (QO APG) 334, and an expression generator (DXR GEN) 336. QO APG includes a join optimizer (JO) 335. Request processing system 340 includes a data collection manager (DCM) 342, a work space manager (WSM) 344, an expression evaluator (DXR EVL) 346, and a join evaluator (JE) 348. Dictionary driver 350 preferably connects to a dictionary 380 via a CDD/Plus driver 370. Data driver 360 would connect to a nonrelational data file which is not shown in Figure 3. NSDS 305 emulates relational databases and their organization fields, relations, and views. NSDS 305 thus makes non-relational data files appear to the clients submitting relational queries as a image of a relational database . To understand the detailed elements of NSDS 305, a description will first be provided for...the preferred implementation. In the preferred implementation, the metadata driver must support the dictionary attributes identified above.

The metadata drivers are specified using a "DECLARE SCHEMA" command to

identify the metadata driver for a particular non-relational data file

. If no dictionary driver is identified, the default is to the  $\ensuremath{\mathsf{CDD/Plus}}$ 

in the...

... The RELATION CALLBACK function and VIEW CALLBACK function operate similarly for relations and views, respectively.

 ${f Second}$  , because the dictionary driver has a common interface with the

NSDS, that interface being defined...

...this invention.

D. Data Driver

The data drivers provide intelligent interfaces to the non-relational

data files . The intelligence in the interface involves knowledge
of

how to use the particular **data file** as well as the knowledge of

particular data objects being operated upon. Much of...

... for those columns or fields.

Each of the data drivers can support more than one data file is the

preferred implementation. NSDS 305 can also support several different

data drivers.

Each of the tuples or data records in a data relation or  $% \left( \mathbf{file}\right)$  must be

uniquely identified by a database key or dbkey. As explained above, dbkey could be a primary key of the tuple...

29/5,K/12 (Item 4 from file: 349)

DIALOG(R) File 349: PCT FULLTEXT

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01057890 \*\*Image available\*\*

METHOD AND APPARATUS FOR RESTRICTING ACCESS TO A DATABASE ACCORDING TO USER

#### **PERMISSIONS**

PROCEDE ET DISPOSITIF DE RESTRICTION D'ACCES A UNE BASE DE DONNEES EN

#### FONCTION D'AUTORISATIONS UTILISATEUR

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AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ

EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR

LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SD SE SG SK

SL TJ TM TN TR TT TZ UA UG UZ VN YU ZA ZM ZW

(EP) AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LU MC NL PT RO SE

SI SK TR

(OA) BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG

(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZM ZW

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Detailed Description

Claims

Fulltext Word Count: 7361

#### English Abstract

A method and apparatus for restricted access to a database according to

user permissions are described. A user permissions file (1007) residing

on a server includes information of permissions related to database records, and which of those permissions are associated with individual

users. A permissions manager (1006) also residing on the server manages

user queries (1002) either directly by generating restricted queries (1008) that reflect only authorized access to database records for the

user generating the query, or indirectly by downloading a permissions filter or information for a restricted parameters screen to the user's

client, so as to generate the restricted query (1008) on the client. In

any case, a database management system (1001) residing on the server receives the restricted query (1008) and generates a result (1003) by accessing only authorized database records for the user, and communicates

the result (1003) back to the user's cleint.

#### French Abstract

L'invention concerne un procede et un dispositif de restriction d'acces a

une base de donnees en fonction d'autorisations utilisateur. Un fichier

d'autorisations utilisateur (1007) residant sur un serveur contient des

informations d'autorisations liees a des donnees de base de donnees, lesdites autorisations etant associees a des utilisateurs individuels. Un

gestionnaire d'autorisations (1006) residant egalement sur le serveur gere des requetes utilisateur (1002) de facon directe par production

requetes restreintes (1008) caracterisant uniquement l'acces autorise

des donnees de base de données pour l'utilisateur effectuant la requete.

ou de facon indirecte par telechargement vers l'abonne d'un filtre d'autorisations ou d'informations concernant un crible de parametres restreints, de maniere a produire la requete restreinte (1008) au iveau

de l'abonne. Dans tous les cas, un systeme de gestion de base de donnees

(1001) residant sur le serveur recoit la requete restreinte (1008) et produit un resultat (1003) par acces a des donnees de base de donnees autorisees pour l'utilisateur, et retourne le resultat (1003) a l'abonne.

Legal Status (Type, Date, Text)
Publication 20031023 Al With international search report.

Fulltext Availability:

Detailed Description
Claims

#### Detailed Description

... viewicludes information, for example, only for DEVICE1, DEVICE2 or DEVICE3. In particular, for the PRODUCTION table of FIG. 7, three views

are created.

CREATE VIEW PRODUCTION1 AS SELECT \* FROM PRODUCTION WHERE... ...this case.

Although the methods and apparatuses described in reference to FIGS.

provide database security, they have numerous problems. For example,

they are cumbersome to

implement, because of...

... maintain, because of the large number of items to be updated as the amount of database information grows larger. Further, such techniques

may fail their primary purpose of database security when a join

automatically generated for a query includes additional tables that

not otherwise protected from...

...an object of the present invention to provide a method for restricting

access to a database according to user permissions, that is easy to implement and simple to maintain.

Another object is to provide an apparatus for restricting access to a database according to user permissions, that is easy to implement

simple to maintain.

Still other objects are to provide a method and an apparatus for restricting access to a database according to user perm'issions,

that do not fail their primary purpose of database security as a result

the inclusion of additional tables not specified in the original

that are added through a join graph for the query.

These and additional objects are accomplished by the various aspects of

...present invention, wherein briefly stated, one aspect is a method

restricting access to a database according to user permissions, comprising: receiving a user identification provided by a client

receiving a query provided by the client user for a database; and generating a restricted query to be provided as input to a database management system for the database by adding one or more restrictions

to the query according to permissions associated with the user identification so as to restrict access to the database .

Still another aspect is an apparatus for restricting access to a

database according to user perniissions, comprising a server computer.

configured to: receive a user identification from...

...database management system for accessing a database in response to a restricted query; user permissions **file** including information associating users with database records accessible to those users; and

permissions manager generating...

...list of tables involved in the query. Continuing with the example,

first list of tables in the above query is I WAFERS 1.

In 1504, a Est of permissions for...

...to form a merged list of tables.

Continuing with the example, the merged list of **tables** in this case is

IWAFERS, PRODUCTION1.

In 1506, **joining** requirements for the merged list of **tables** are satisfied, resulting in a final list of **tables** including those necessary to complete a **join** graph including the merged Est of **tables** 

. U.S. Patent Application Ser. No. 09/871,484 entitled "Automatic Generation of **Join** Graphs for Relational **Database** Queries," filed

May 31, 2001, assigned to the same assignee as the present application,

and incorporated herein...

 $\cdot \dots$  this reference, describes one method for performing this function.

continuing with the example, the join procedure adds the table LOTS,

so that the final list of tables is IWAFERS, PRODUCTION, LOTS1. Additionaljoinconditionsnecessarytocompletethejoingraphinclude.

10
PRODUCTION.DEVICE=LOTS.DEVICE, and LOTS.LOT=WAFERS.LOT.

In 1507, the final list of tables is used to replace the "FROM" list

in. the query.

Continuing with the example, replacing...

...LOT='Al.

In 1508, the "WHERE" list of the query is modified to include any join

conditions that are missing, but should be included. Also, additional restrictions are added to the...

...granted to the client user that restrict the user's access to records of

the database . Again continuing with the example, adding the join conditions in the WHERE clause results in the modified query.

SELECT WAFERS.LOT, WAFERS.WAFER...

Claim

... a WHERE clause, and said modifying said query comprises modifying said

FROM clause to include tables required by said permissions associated with said user identification.

5 The method according to claim 4, wherein said modifying said query further comprises modifying said WHERE clause to include join conditions resulting from including said tables required by said permissions associated with said user identification in said FROM clause.

6 An apparatus for restricting access to a database according to

permissions,

comprising a server computer configured to:

receive a user identification from a client computer;

receive a query from said client computer for a database; and generate a restricted query to be provided as input to a database management system for said database by adding one or more

restrictions

to said query according to permissions associated with said user identification so as to restrict access to said database . 7 The apparatus according to claim 6, wherein said server computer is configured to generate...

...server computer is configured to modify said query by modifying said FROM clause to include tables required by said permissions associated with said user identification.

10 The apparatus according to claim...

...computer is further configure to modify said query by modifying said WHERE clause to include join conditions resulting from including

tables required by said permissions associated with said user identification in said FROM clause. It. An apparatus for restricting access to a database according to user permissions, comprising a server computer including:

database management system for accessing a database in response

to a restricted query; user permissions file including information associating users with database records

accessible to those users; and

permissions manager generating said restricted query according to said

information included in said user permissions file in response to a query from an identified user, and providing said restricted query to said database management system.

12 The apparatus according to claim 1 1, wherein said server computer is

• • •

...on said client computer so that said user interface displays said available options limited by **tables** , columns and records accessible to

said user on a display screen of said client computer...

...joining of said merged set of tables.

 $38 \ {\rm An} \ {\rm apparatus} \ {\rm for} \ {\rm restricting} \ {\rm access} \ {\rm to} \ {\rm a} \ {\rm database} \ {\rm according} \ {\rm to} \ {\rm user}$ 

permissions, comprising a computer configured to receive a user identification provided by a user of a client computer; receive a database query including a SELECT clause, FROM clause, and WHERE lause

provided by said user; and modify said WHERE clause of said database query to include permissions associated with said user identification that restrict access by said user to only authorized database records in a database.

39 The apparatus according to claim 38, wherein said computer is further

configured to: extract a first set of tables associated with said database query by parsing said database query; extract a second set of

tables from said permissions associated with said user identification that restrict access by said user to only authorized database seconds

in said  $\mbox{database}$  ; merge said first set of tables and said second set of

tables to generate a...

...tables and said merged set of tables; and modify said WHERE clause to

include additional **join** conditions as necessary for **joining** of said

merged set of tables.

40 A method for restricting access to a database according to user permissions,

comprising:

generating information of permissions related to database records; and

generating information of users and associated permissions from said information of pern-tissions so that access to said database . records is

restricted according to said information of users and associated permissions.

41 A method for restricting access to a **database** according to user permissions, comprising providing a computer executable program including

program code for facilitating generation of information of permissions

related to database records, and generation of information of users and

associated permissions from said information of permissions...

```
(Item 5 from file: 349)
 29/5,K/13
DIALOG(R) File 349: PCT FULLTEXT
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01055617
            **Image available**
COMPARISON OF SOURCE FILES
COMPARAISON DE FICHIERS SOURCE
Patent Applicant/Assignee:
  SOFTWARE ENGINEERING GMBH, Robert-Stolz-Str. 5, 40470 Dusseldorf, DE,
DE
    (Residence), DE (Nationality)
Inventor(s):
  NEUMANN Ralf, Albrecht-Durer-Str. 1 d, 46539 Dinslaken, DE,
Legal Representative:
  COHAUSZ & FLORACK (24) (agent), Bleichstrasse 14, 40211 Dusseldorf,
Patent and Priority Information (Country, Number, Date):
  Patent:
                      -WO 200385552 A2-A3 20031016 (WO 0385552)
                        WO 2003EP3698 20030409 (PCT/WO EP03003698)
  Application:
  Priority Application: DE 10215852 20020410; EP 200224709 20021106
Designated States:
(Protection type is "patent" unless otherwise stated - for applications
prior to 2004)
 AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM
 EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK
  LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SD SE SG
  SL TJ TM TN TR TT TZ UA UG UZ VC VN YU ZA ZM ZW
  (EP) AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LU MC NL PT
RO SE
  SI SK TR
  (OA) BF BJ CF CG CI CM GA GN GO GW ML MR NE SN TD TG
  (AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZM ZW
  (EA) AM AZ BY KG KZ MD RU TJ TM
Main International Patent Class (v7): G06F-017/30
Publication Language: English
Filing Language: English
Fulltext Availability:
  Detailed Description
  Claims
Fulltext Word Count: 4994
English Abstract
  A method of comparing two source files containing database queries is
  described in which the database queries are ascertained from the two
  source files and in which the ascertained database queries from a
first
  source file are compared with the ascertained database queries of a
  second source file. A quick and efficient analysis of different
program
  versions is achieved by ascertaining the syntax of each database
```

with the help of a syntax analysis, by comparing the syntax of the

database queries of the source files with one another and by

presenting

the results of the comparison.

#### French Abstract

L'invention concerne un procede permettant de comparer deux fichiers source contenant des demandes de base de donnees, lesquelles demandes sont determinees a partir des deux fichiers source dans lesquels les demandes determinees provenant d'un premier fichier source sont comparees

aux demandes de base de donnees determinees d'un second fichier source.

Une analyse rapide et efficace de differentes versions de programme est

realisee par determination de la syntaxe de chaque demande de base de donnees au moyen d'une analyse de syntaxe par comparaison de la syntaxe

des demandes de base de donnees des fichiers source avec une autre et par

presentation des resultats de la comparaison.

Legal Status (Type, Date, Text)

Publication 20031016 A2 Without international search report and to be republished upon receipt of that report.

Examination 20031218 Request for preliminary examination prior to end of

19th month from priority date

Search Rpt 20040205 Late publication of international search report Republication 20040205 A3 With international search report.

Republication 20040205 A3 Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.

Fulltext Availability: Detailed Description Claims

Detailed Description

COMPARISON OF SOURCE FILES

FIELD OF THE INVENTION

[0001] The present invention relates t6a method of comparing two source

. . .

...a comparison device comprising a reader for reading source files and

extractor for extracting database queries from source files .

BACKGROUND OF THE INVENTION

[0002] **Database** queries from external sources are coded to access **databases**, particularly relational **databases** such as IBM's DB2.

coded query text of a

database quer

y comprises different elements. Database queries are carried out through

a standardized interface, the Structured Query Language (SQL) interface.

Here SQL queries are transmitted to the database system and

processed by the database system. These SQL queries can consist of a number of query elements, whereby, for example, theelements "CursorName", "StatementType" (Select, lnsert, Updaie, Delete), " Tables ", " Join .s", "Predicates", "Select, Update and Insert Columns", "Select Option Text" and "Select Option Columns" can be used. [0003] On a query of a database us.ing SQL, actions are triggered in the database system that enable the database query to be answered. response times for database queries can vary greatly depending on.the query elements that are coded. It is desired... ...possible response times. CONFIRMATION COPY [0004] Programs that work with the data records of the databases changed over the course of time. A change in the SQL queries can accompany... Claim 1 A method of comparing a first source file with a second source file, said first and second.source files each comprising one or several database wherein said database queries are ascertained from said first and second source files and wherein the ascertained database queries of said first source file are compared with the ascertained database queries of said second source file, which method comprises: performing a syntax analysis to ascertain a syntax of each of said database queries; performing a comparison of said syntax of... . . . and presenting the results of said comparison. 2 The method of claim 1, wherein each database query of the first source file is combined with each database query of the second source file to form combined database gueries. 3 The method of claim 1 or 2, wherein said...

...each syntactical element and -wherein the weighted difference

between

the syntactical elements of the combined database queries is used to determine the similarity value with the help of said weightso

7...



#### (19) United States

#### (12) Patent Application Publication (10) Pub. No.: US 2003/0195878 A1 (43) Pub. Date:

#### (54) COMPARISON OF SOURCE FILES

(76) Inventor: Ralf Neumann, Dinslaken (DE)

Correspondence Address: BAZERMAN & DRANGEL, P.C. **60 EAST 42ND STREET SUITE 820 NEW YORK, NY 10165 (US)** 

(21) Appl. No.: 10/410,316

(22) Filed: Apr. 9, 2003

(30)Foreign Application Priority Data

(DE)..... DE 102 15 852.5 Nov. 6, 2002 (EP) ..... EP 02 024 709.4

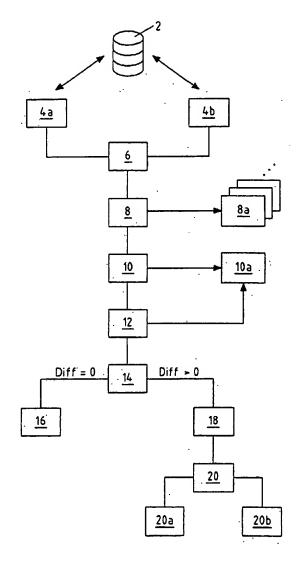
#### **Publication Classification**

Oct. 16, 2003

(51)	Int. Cl. <sup>7</sup>	G06F	17/30
(52)	U.S. CI.		707/3

#### (57)**ABSTRACT**

A method of comparing two source files containing database queries is described in which the database queries are ascertained from the two source files and in which the ascertained database queries from a first source file are compared with the ascertained database queries of a second source file. A quick and efficient analysis of different program versions is achieved by ascertaining the syntax of each database query with the help of a syntax analysis, by comparing the syntax of the database queries of the source files with one another and by presenting the results of the comparison.



DERWENT-ACC-NO: 2003-790290

DERWENT-WEEK: 200627

#### COPYRIGHT 2006 DERWENT INFORMATION LTD

TITLE: Database query comparison method in which

queries from

different programs, or versions of the same

program, are

analyzed using syntax analysis tools and then

the syntax

results for each query are compared

INVENTOR: NEUMANN, R

PATENT-ASSIGNEE: SOFTWARE ENG GMBH[SOFTN] , NEUMANN R[NEUMI]

PRIORITY-DATA: 2002DE-1015852 (April 10, 2002)

#### PATENT-FAMILY:

PUB-NO		PUB-DATE	LANGUAGE
PAGES	MAIN-IPC		
	T3	April 1, 2006	N/A
000	G06F 017/30		
EP 1353278	A2	October 15, 2003	G
009	G06F 017/30		
US 20030195	5878 A1	October 16, 2003	N/A
000	G06F 017/30		
WO 2003085552 A2		October 16, 2003	E
000	G06F 017/30		
DE 10215852	2 A1	October 30, 2003	N/A
	G06F 017/30		
AU 20032274	157 A1	October 20, 2003	N/A
000	G06F 017/30		
EP 1353278	B1	September 7, 2005	G
000	G06F 017/30		
DE 50204176	5 G	October 13, 2005	N/A
000	G06F 017/30		

DESIGNATED-STATES: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR IE IT LI LT LU

LV MC MK NL PT RO SE SI SK TR AE AG AL AM AT AU AZ BA BB BG BR BY BZ

CA CH CN

CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS

JP KE KG

KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU

SD SE SG SK SL TJ TM TN TR TT TZ UA UG UZ VC VN YU ZA ZM ZW AT BE BG CH CY CZ

DE DK EA EE ES FI FR GB GH GM GR HU IE IT KE LS LU MC MW MZ NL OA PT RO SD SE

SI SK SL SZ TR TZ UG ZM ZW AT BE BG CH CY CZ DE DK EE ES FI FR GB GR IE IT LI

LU MC NL PT SE SK TR

#### APPLICATION-DATA:

PUB-NO	APPL-DESCRIPTOR	APPL-NO
APPL-DATE		
ES 2249529T3	N/A	2002EP-0024709
November 6, 2002		
ES 2249529T3	Based on	EP 1353278
N/A		
EP 1353278A2	N/A	2002EP-0024709
November 6, 2002		
US20030195878A1	N/A	2003US-0410316
April 9, 2003		
WO2003085552A2	N/A	2003WO-EP03698
April 9, 2003		
DE 10215852A1	N/A	2002DE-1015852
April 10, 2002		
AU2003227457A1	N/A	2003AU-0227457
April 9, 2003		
AU2003227457A1	Based on	WO2003085552
N/A		
EP 1353278B1	N/A	2002EP-0024709
November 6, 2002		
DE 50204176G	N/A	2002DE-0504176
November 6, 2002		
DE 50204176G	N/A	2002EP-0024709
November 6, 2002		
DE 50204176G	Based on	EP 1353278
N/A		

INT-CL (IPC): G06F017/30

ABSTRACTED-PUB-NO: EP 1353278A

#### BASIC-ABSTRACT:

NOVELTY - Method for comparison of two source files containing database queries, in which the two database queries are extracted from the

source files

and compared. Accordingly the syntax of each query is analyzed using syntax

analysis tools, then the syntax of the database queries are compared

with each

other and the results of the comparison are output.

USE - Method for comparison of database queries, e.g. for comparison of queries

generated using different database languages, programs or versions of the same

language or program.

ADVANTAGE - Differences between two program versions can be quickly and

reliably determined, so that possible problems can be prevented.

DESCRIPTION OF DRAWING(S) - The figure shows a flow diagram of an inventive method.

different program versions. 4a, 4b

CHOSEN-DRAWING: Dwg.1/2

TITLE-TERMS: DATABASE QUERY COMPARE METHOD QUERY PROGRAM VERSION

**PROGRAM** 

ANALYSE SYNTAX ANALYSE TOOL SYNTAX RESULT OUERY COMPARE

DERWENT-CLASS: T01

EPI-CODES: T01-E01C; T01-F05A; T01-J05B3;

SECONDARY-ACC-NO:

Non-CPI Secondary Accession Numbers: N2003-633080

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29/5,K/14
               (Item 6 from file: 349)
DIALOG(R) File 349: PCT FULLTEXT
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            **Image available**
01035305
METHODS AND SYSTEM FOR AUTHORIZING RECORD REPLICATION
PROCEDES ET SYSTEME PERMETTANT D'AUTORISER UNE REPLICATION DE DISQUE
Patent Applicant/Assignee:
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    Eindhoven, NL, NL (Residence), NL (Nationality), (For all
designated
    states except: US)
Patent Applicant/Inventor:
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    (Residence), NL (Nationality), (Designated only for: US)
Legal Representative:
  GROENENDAAL Antonius W M (agent), Internationaal Octrooibureau B.V.,
    Prof. Holstlaan 6, NL-5656 AA Eindhoven, NL,
Patent and Priority Information (Country, Number, Date):
                        WO 200365362 A2-A3 20030807 (WO 0365362)
  Patent:
  Application:
                        WO 2003IB104 20030117
                                               (PCT/WO IB03000104)
  Priority Application: EP 200275341 20020128
Designated States:
(Protection type is "patent" unless otherwise stated - for applications
prior to 2004)
  AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM
DZ
  EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK
  LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SC SD SE
  SK SL TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW
  (EP) AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LU MC NL PT
SE SI
  SK TR
  (OA) BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG
  (AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZM ZW
  (EA) AM AZ BY KG KZ MD RU TJ TM
Main International Patent Class (v7): G11B-020/00
Publication Language: English
Filing Language: English
Fulltext Availability:
  Detailed Description
  Claims
Fulltext Word Count: 4022
English Abstract
 A replicating plant (110) receives a master recording (102)
comprising a
  number of tracks from a content producer (101). The audio
fingerprints of
  the tracks are computed and submitted to a verifying server (120).
The
  server performs a database lookup to identify the tracks based on the
  submitted fingerprints. The list with identified tracks is then
```

compared

against authoritative lists (103) submitted by content providers (101).

If a match is found, the verifying server (120) transmits a positive response to the replicating plant (110), otherwise it transmits a negative response. Preferably the response is digitally signed to allow

the replicating plant (110) to verify its authenticity. The response may

include the matching authoritative track list, so that the replicating

plant (110) also obtains accurate metadata for the tracks. This metadata

could then be included in the replicated copies (112).

# French Abstract

L'invention concerne une installation de replication (110) recevant

enregistrement principal (102) comprenant un certain nombre de pistes, a

partir d'un dispositif de production de contenu (101). Les empreintes audio des pistes sont calculees et soumises a un serveur de verification

(120). Le serveur effectue une verification de base de donnees pour identifier les pistes en fonction des empreintes soumises. La liste contenant des pistes identifiees est ensuite comparee a des listes faisant autorite (103), soumises par des fournisseurs de contenu (101).

Si une correspondance est trouvee, le serveur de verification (120) transmet une reponse positive a l'installation de replication (110), sinon il transmet une reponse negative. De preference, la reponse est numeriquement signee pour permettre a l'installation de replication (110)

d'en verifier l'authenticite. La reponse peut comprendre la liste de pistes faisant autorite correspondante de sorte que l'installation de replication (110) obtienne egalement des metadonnees precises pour

pistes. Ces metadonnees peuvent ensuite etre comprises dans des copies

repliquees (112).

Legal Status (Type, Date, Text)
Publication 20030807 A2 Without international search report and to be republished upon receipt of that report.

Search Rpt 20040304 Late publication of international search report Republication 20040304 A3 With international search report.

Fulltext Availability: Detailed Description

Detailed Description

... guaranteed to be unique, so preferably a really globally unique value

is used.

A second table is then set up with entries comprising for each multimedia object the fingerprints and the...fingerprints in the second

table, obtains an identifier and matches the identifier against the first

table to obtain the metadata. If the database 211 is an SQL database

, the two tables could be joined on the identifier.

The **DBMS** backend module 203 feeds the results of the query to the response module 204, which **determines** whether to give a positive or negative response to the communication module 1 14 ...master recording

102. The content producer 101 transmits this authoritative track list

to the **verifying** server 120, where it is received and made accessible

to the response module 204. Additionally...

(Item 7 from file: 349) 29/5,K/15 DIALOG(R) File 349: PCT FULLTEXT (c) 2006 WIPO/Thomson. All rts. reserv. \*\*Image available\*\* 00982585 A METHOD AND SYSTEM FOR ADDING REAL-TIME, INTERACTIVE FUNCTIONALITY TO A WEB-PAGE PROCEDE ET SYSTEME D'AJOUT DE FONCTIONNALITE INTERACTIVE EN TEMPS REEL A UNE PAGE WEB Patent Applicant/Assignee: YAHOO INC, 701 First Avenue, Sunnyvale, CA 94089, US, US (Residence), (Nationality) Inventor(s): EICHSTADT Matthias, 370 Altair Way, #340, Sunnyvale, CA 94086, US, STAIB Christopher, 185 Sturges Ridge Road, Wilton, CT 06897, US, SHAFRON David, 160 West 66th Street, #33G, New York, NY 10023, US, PAL Anil, 1370 Yukon Terrace, Sunnyvale, CA 94087, US, RAMAKRISHAN T S, 15020 Park Drive, Saratoga, CA 95070, US, Legal Representative: DIBERNARDO Ian (et al) (agent), Stroock & Stroock & Lavan LLP, 180 Maiden Lane, New York, NY 10038, US, Patent and Priority Information (Country, Number, Date): WO 200312668 A1 20030213 (WO 0312668) Patent: WO 2002US23639 20020725 (PCT/WO US0223639) Application: Priority Application: US 2001916543 20010727 Designated States: (Protection type is "patent" unless otherwise stated - for applications prior to 2004) AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DΖ · EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SD SE SG SI SK SL TJ TM TN TR TT TZ UA UG UZ VN YU ZA ZM ZW (EP) AT BE BG CH CY CZ DE DK EE ES FI FR GB GR IE IT LU MC NL PT SE (OA) BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG (AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZM ZW (EA) AM AZ BY KG KZ MD RU TJ TM Main International Patent Class (v7): G06F-015/16 Publication Language: English Filing Language: English Fulltext Availability: Detailed Description Claims Fulltext Word Count: 8838

English Abstract

A method and system for adding real-time, interactive functionality to a

web-page, e.g., a HTML document, that enables interaction between and

among a plurality of users viewing the same web-page. Software stored on

and operable in connection with a server computer (40) comprises a server

component (400) and a client component (300). The server component provides general server functionality and proxy server functionality

the server. The client component is downloadable by the server for storage on and operation in connection with one or more client computer

(10, 20), and adds real-time, interactive functionality to a web-page.

#### French Abstract

L'invention concerne un procede et un systeme d'ajout d'une fonctionnalite interactive en temps reel a une page Web, par exemple,

document HTML, qui assurent l'interaction entre une pluralite d'utilisateurs visualisant la meme page Web. Un logiciel enregistre

un ordinateur serveur (40) et exploitable a partir de ce dernier comprend

une composante serveur (400) et une composante client (300). La composante serveur assure une fonctionnalite serveur generale et une fonctionnalite serveur mandataire dans le serveur. La composante client

peut etre telechargee par le serveur en vue de son stockage et son exploitation par un ou plusieurs ordinateurs client (10, 20), et permet

d'ajouter une fonctionnalite interactive en temps reel a la page Web.

Legal Status (Type, Date, Text)

Publication 20030213 Al With international search report.

Publication 20030213 Al Before the expiration of the time limit for amending the claims and to be republished in the

amending the claims and to be republished in the event of the receipt of amendments.

Examination 20030619 Request for preliminary examination prior to end of

19th month from priority date

Correction 20030814 Corrected version of Pamphlet: pages 1/6-6/6, drawings, replaced by new pages 1/6-6/6

Republication 20030814 Al With international search report.

Fulltext Availability: Detailed Description Claims

# Detailed Description

... other user-identifying parameters. That data is stored by the server

in a user account database which is used to authenticate that user during attempts by that user to join or initiate a session. When a ser

account is established, the server transmits a data **file** (e.g., a cookie) to the user's computer for storage thereon. The cookie includes

...whenauserjoinsasession, the cookie is transmitted to the server 40

and the user is authorized to join the session (if appropriate). The general server functionality also monitors each user's activity

during...

Claim

... method as recited by claim 1, wherein said step (c) comprises parsing

the webpage to determine an appropriate location to add the script code.

4 A method as recited by claim ... A method as recited by claim 1, wherein

said step (a) comprises:

receiving a data file from the user including user account data and

page identification data; and determining if...

...8 A method as recited by claim 2, wherein said receiving step comprises:

file from the another user including user receiving a **data** account

...a data storage device of the second user's computer, the Internet browser enabling the second user to cause the computer to establish a connection to the Internet and to request...software on

server for transmitting the requested web-page and script code to the second user's computer, the script code enabling the first user and

second user to interact with each other while viewing the web-page.

18 A system as...16, wherein said processor is further operable in connection with the software for receiving a data file from the first

user including first user account data and web-page identification

and...17, wherein said processor is further operable in connection with

file from the second user the software for receiving a data including second user account data and web-page identification data, -wherein said processor is further operable in connection with the software for determining if the second user is authorized to access the

requested web-page.

22 A system...

```
29/5,K/16
               (Item 8 from file: 349)
DIALOG(R) File 349: PCT FULLTEXT
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00968923
            **Image available**
SYSTEM AND METHOD FOR DATA STORAGE, CONTROL AND ACCESS
SYSTEME ET PROCEDE DE STOCKAGE, DE CONTROLE ET DE CONSULTATION DE
DONNEES
Patent Applicant/Assignee:
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    10018, US, US (Residence), US (Nationality)
Inventor(s):
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Patent Applicant/Inventor:
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11211,
    US, US (Residence), US (Nationality)
Legal Representative:
  NABULSI Basam E (agent), Cummings & Lockwood, 700 State Street, P.O.
    1960, New Haven, CT 06509-1960, US,
Patent and Priority Information (Country, Number, Date):
  Patent:
                        WO 2002102741 A2-A3 20021227 (WO 02102741)
  Application:
                        WO 2002US18347 20020611 (PCT/WO US0218347)
  Priority Application: US 2001298443 20010615
Designated States:
(Protection type is "patent" unless otherwise stated - for applications
prior to 2004)
  AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM
DZ
  EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK
LR
  LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SD SE SG
SI
  SK SL TJ TM TN TR TT TZ UA UG UZ VN YU ZA ZM ZW
  (EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR
  (OA) BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG
  (AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZM ZW
  (EA) AM AZ BY KG KZ MD RU TJ TM
Main International Patent Class (v7): G06F-017/60
Publication Language: English
Filing Language: English
Fulltext Availability:
  Detailed Description
  Claims
Fulltext Word Count: 24387
English Abstract
  The present disclosure relates to a system and method for improved
```

(or information) storage, control and/or access (fig. 1). A

data

system/method

according to the disclosure facilitates enhanced versioning of data files

(fig. 3), data records (fig. 5) information (fig. 6) and the like, such

that subsequent data file and/or record retrieval is consistent with and

reflective of ancillary conditions at the time of the data file  $\mbox{and/or}$ 

record input (fig. 7). The system/method provides enhanced data/information storage, control and access that have applicability in a

variety of fields (fig. 5), including applications related to health care, mental health care, financial and accounting systems, industrial

control systems, and the like (fig 7L).

#### French Abstract

Cette invention concerne un systeme et un procede ameliorant le stockage,

le controle et/ou la consultation de donnees (ou informations). Selon cette invention, ce systeme/procede permet de simplifier un controle de

versions renforce de fichiers de donnees, de fiches, d'informations

analogue, de maniere qu'une extraction ulterieure de fichiers de donnees

et/ou de fiches soit coherente et reflete des conditions auxiliaires au

moment de l'entree du fichier de donnees et/ou de la fiche. Ce systeme/procede permet un renforcement du stockage, du controle et de la

consultation de donnees/d'informations pouvant etre appliquees dans une

multitude de domaines, y compris dans des applications relatives aux soins de sante, aux soins de sante mentale, aux systemes financiers et

comptables, aux systemes de controle industriels et analogue.

Legal Status (Type, Date, Text)

Publication 20021227 A2 Without international search report and to be republished upon receipt of that report.

Search Rpt 20030912 Late publication of international search report Republication 20030912 A3 With international search report.

Examination 20031023 Request for preliminary examination prior to end of

19th month from priority date

Fulltext Availability:
Detailed Description

#### Detailed Description

... advance the art, and reflect a deeper analysis and understanding of

the practical implications of  $\mbox{data}$  /  $\mbox{file}$  storage, control and access.

For example, it is often equally important in assessing a data / file

record to understand the nature of the data/information that was omitted  $% \left( 1\right) =\left( 1\right) \left( 1\right) +\left( 1\right) \left( 1\right) \left( 1\right) +\left( 1\right) \left( 1\right)$ 

 $\ldots$  by one or more transactions as it is to understand the datafinformation

present in the data / file record. It is also ...points, it is assumed

that datafinformation is provided to the user (as consumer) by the data

/ file storage system as retrievals (e.g. on-screen or printed
reports,

or transmitted data) and...of "views" provides an API (programming interface) for performing retrieval and modification operations on the

database tables comprising an element XXX, as suminarized in the following columnar presentation.

xxx A view joining the invariant XXX-FIX and mutable XXX-VAR records,

with triggers to divvy up the fields to their respective tables and perform

integrity checking

and/or deleted...

XXX

ASOF A view on XXX providing at most one record...which meets XXX-specific aging criteria. The set of records is generated via a cartesian join with all possible VERS-IDS, which is then collapsed by

an externally

35

provided clause...used, providing a view of the baseline as of the current time.

Turning to preferred database scherna(s) according to the present disclosure, for an ASOF view, where a Version's...

...utilized to provide an As Of version ID, the underlying view typically

performs a Cartesian **join** of every possible VersId with the latest version of the Statement as/of that Version...

```
(Item 12 from file: 349)
 29/5,K/20
 DIALOG(R) File 349: PCT FULLTEXT
 (c) 2006 WIPO/Thomson. All rts. reserv.
 00470868
                                                 SYSTEM AND METHOD
                                    DATA ACCESS
                        UNIVERSAL
 PLATFORM-INDEPENDENT
    CLIENT-SERVER ENVIRONMENT
 SYSTEME ET PROCEDE UNIVERSELS D'ACCES AUX DONNEES, INDEPENDANTS
DE LA
    PLATE-FORME, DANS UN ENVIRONNEMENT CLIENT-SERVEUR
 Patent Applicant/Assignee:
   SANGA INTERNATIONAL INC,
  MAINE Shaun P J,
  LUSSIER Mark J,
   STEVENS Andrew G,
 Inventor(s):
  MAINE Shaun P J,
  LUSSIER Mark J,
   STEVENS Andrew G,
 Patent and Priority Information (Country, Number, Date):
                         WO 9901802 A2 19990114
   Patent:
                         WO 98US13794 19980701 (PCT/WO US9813794)
   Application:
   Priority Application: US 97886186 19970701
 Designated States:
 (Protection type is "patent" unless otherwise stated - for applications
 prior to 2004)
   AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GE GH
   GW HR HU ID IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN
 MW
   MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG US UZ VN YU
   GH GM KE LS MW SD SZ UG ZW AM AZ BY KG KZ MD RU TJ TM AT BE CH CY DE
  ES FI FR GB GR IE IT LU MC NL PT SE BF BJ CF CG CI CM GA GN ML MR NE
 SN
   TD TG
 Main International Patent Class (v7): G06F-013/14
 International Patent Class (v7): H04L-009/00
 Publication Language: English
 Fulltext Availability:
   Detailed Description
   Claims
 Fulltext Word Count: 19981
 English Abstract
    A data access system (100) and method provides platform independent
   access from a client module (101) to a variety of data sources (108)
   stored in a variety of data formats on a variety of computer systems,
   including database sources and electronic mail sources (112). The

    system

   includes a desktop client module (104) that is a Java applet (105)
   runs within a Java-compliant browser (104) located on a client
```

computer

(101). The desktop client module provides access to any one of a plurality of data sources, each represented as a book (200) on the client

desktop. Access of the data associated with a book is implemented using a

data access service application running on a server computer (102) in communication with the desktop client. The data access service application (106) includes a data source interface (107) that stores metadata associated with each book. Accessed data is presented in a customized viewing format as (127) as specified by various views (204)

and forms associated with each book.

#### French Abstract

L'invention concerne un systeme et un procede d'acces aux donnees qui

permet d'avoir acces, independant de la plate-forme, depuis un module client, a diverses sources de donnees stockees sous diverses structures

de donnees sur divers systemes informatiques, y compris des sources

bases de donnees et des sources de courrier electronique. Ce systeme comprend un module bureau client qui est une mini-application Java tournant sur un navigateur compatible Java, situe sur un ordinateur client. Le module bureau client permet d'acceder a n'importe quelle source de donnees parmi plusieurs, chacune etant representee sous la forme d'un livre sur le bureau client. L'acces aux donnees associees

livre se fait au moyen d'une application de services d'acces aux donnees

tournant sur un ordinateur serveur en communication avec le bureau client. L'application de services d'acces aux donnees comprend une interface source de donnees qui stocke les metadonnees associees a

livre. Les donnees auxquelles on accede sont presentees dans un format

d'affichage personnalise, tel que specifie par divers affichages et diverses formes associees a chaque livre.

Fulltext Availability: Detailed Description Claims

#### Detailed Description

... multiple data sources reside on a single computer.

Data service application 106 additionally includes Java database connectivity module (JDBC) 110. JDBC 110 is a conventional application

- 1 1 programming interface for...

...a table identifier array 202, a join condition 203, and a plurality of views 204.

Database identifier 201 stores information identifying a particular

database on a particular server computer. Database identifier 201 is

used to construct an

address to communicate with the database corresponding to the database

identifier. Table identifier 201 is an array of table identifiers that

specifies one or more tables in the. database . join condition 203 specifies a particular join function to be used to combine the tables

listed by table identifier 201. Views 204 each specify a custom view

the **joined** data. View 204 includes a search condition 205, a selection

(list) of attributes 206, and...

...provides information that is used by service application 106 to construct a request for a database search result. Service application

106 processes the request, queries the selected database and returns

the result set in a dynamically created object.

Figure 3 is a diagram...

...number and home number. Each person object 301 is generated as a result of a database query constructed using a JDBC SQL call 303. The JDBC call 303 performs a table join

the person table 304 and the phone number table 305 associated with

database identified by book 300. The table join is perform using

person I.D. as the sole **join** column. Each returned person object is presented within a view as a row.

Further customization...

#### Claim

... method of claim 10 further comprising:
providing a user interface for identifying a data source;
determining the physical storage information associated with the identified data source;
generating metadata from the determined physical storage information; and
- 100 storing the metadata.

15 The method of claim 14 wherein the identified data source identifies

data stored in first and **second tables** in a **database** and includes a

table join condition.

16 The method of claim 14 wherein the identified data source is an electronic...

```
(Item 14 from file: 349)
 29/5,K/22
DIALOG(R) File 349: PCT FULLTEXT
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00254747
METHOD AND APPARATUS FOR DISPLAYING AND UPDATING STRUCTURED INFORMATION
               APPAREIL D'AFFICHAGE ET DE MISE A JOUR
        ET
PROCEDE
D'INFORMATIONS
    STRUCTUREES
Patent Applicant/Assignee:
  BENTSON Sheridan,
  RASSMAN William R,
Inventor(s):
  BENTSON Sheridan,
  RASSMAN William R,
Patent and Priority Information (Country, Number, Date):
                        WO 9402903 A1 19940203
  Patent:
                        WO 93US7223 19930726 (PCT/WO US9307223)
Application:
  Priority Application: US 92918604 19920724
Designated States:
(Protection type is "patent" unless otherwise stated - for applications
prior to 2004)
  AU CA JP AT BE CH DE DK ES FR GB GR IE IT LU MC NL PT SE
Main International Patent Class (v7): G06F-015/40
Publication Language: English
Fulltext Availability:
  Detailed Description
  Claims
Fulltext Word Count: 10702
English Abstract
   A method and apparatus for displaying structured information such as
  information that is stored in plural interrelated tables (110, 120,
130,
  140, 150, 160, 170; 180). A structural map (13) that describes that
  pathing between the interrelated tables (110, 120, 130, 140, 150,
  170, 180, 190) is defined. The structural map (13) may be a computer
  representation of a multiple index multipartite graph which defines
  structure of the structured information (12). A display map (14) is
  defined for describing how to display the information. The display
  (14) describes where the information from the tables is to be
displayed,
  and where, rather than displaying information from the tables,
  information concerning the structural interrelationship of the tables
  (110, 120, 130, 140, 150, 160, 170, 180, 190) is to be displayed. In
  response to a query based interaction with an operator (20), either
  information from the plural tables is displayed or an indication of
  further structure is displayed. When information is displayed it is
  filtered by the previous level of structure indexed by the
information
  targeted by the operator (20) such that only information of concern
```

the operator's query is displayed. The display may be in the form of

pop-down windows (17) and those windows may contain mixed data and structural information (16a, 16b), or the display may be in the form

graphs having nodes and paths (13, 14). Displayed information may be modified and the modifications are traced through the structured information (12) so as to allow dynamic display of modified data (15).

#### French Abstract

Un procede et un appareil permettent d'afficher des informations structurees telles que celles stockees dans plusieurs tables liees entre

elles (110, 120, 130, 140, 150, 160, 170, 180). On definit une carte structurelle (13) qui decrit les chemins reliant ces tables (110, 120.

130, 140, 150, 160, 170, 180, 190) et qui peut etre une representation

informatique d'un graphique multipartite a index multiples
definissant

cette structure des informations structurees (12). On definit une

d'affichage (14) qui indique comment afficher les informations et decrit

l'endroit ou les informations provenant des tableaux doivent etre affichees et celui ou il s'agit au contraire d'afficher des informations

concernant les relations structurelles des tables (110, 120, 130, 140,

150, 160, 170, 180, 190). En reponse a une interaction basee sur une requete avec un utilisateur (20), on voit s'afficher soit des informations provenant des tables soit une indication complementaire concernant leur structure. Si des informations sont affichees, elles

filtrees par le niveau precedent de structure indexee selon les informations souhaitees par l'utilisateur (20) de facon que seules sont

affichees celles repondant a sa requete. Cet affichage peut prendre

forme de fenetres a incrustation (17) pouvant contenir un melange de donnees et d'informations structurelles (16a, 16b) ou bien il peut prendre celle de graphiques dotes de noeuds et de chemins (13, 14).

peut modifier les informations affichees et ces modifications apparaissent dans les informations structurees (12), ce qui permet un affichage dynamique des donnees modifiees (15).

Fulltext Availability: Detailed Description

# Detailed Description

... of interrelationships in the structured information increases, the complexity of the structure increases and many tables (or partitions) may be used to store the information.

For example, in the situation where... ... the-tables is only a suoset of the

total amount of information in the relational database, In the above example, a first table in the relational database might be a student table consisting of student name, identification number, dormitory assignments, etc.; and a second table in the relational database might be a course table consisting of course name, prerequisites, class time, place, etc, The...

...third, intermediary table is created which cross-references students to courses, This, then, provides two join fields, the student and the course, which together give the cross-reference of student-to-course.

The individual tables in a relational database are normally linked with one another through " join fields". In the above example, the join fields were the student identification number and the course number, Such a field links or joins the tables in the database . To correlate the information in a first table with the information in a second table, first the **join** field is extracted from the first table, Next, the **join** field is indexed to the second table by which it can be determined which entries in the two tables are associated, Usually, the indexing is via an intermediary, cross-reference, table (e.g., in "many-to-manyll situations) but where an entry is joined directly into a table (e,g,, a "many-to-onell situation) there is usually no need for an intermediate table .

Relational databases are effective to break complexly structured information into comprehensible and manageable units. Nevertheless, as the of information is normally available in a separate table in a relational database, but owing to the complexity of the interrelationships between those tables, it has not heretofore been practical to correlate that information and to display it in useable form. Or to consider the problem of adding or deleting a course. The course joins with the teachers giving the course, the usage of facilities, books, students taking courses, schedules...such as by changing, adding

or deleting information, The appropriate one of the plural interrelated **tables** is updated based on the edit, In the case of deletion, dangling **joins** are deleted, preferably under operator supervision; in the case of additions, new **joins** are created.

For example, a classical database problem concerns finding and deleting or moving data that is very active or very inactive, If a database /graph

includes historical footprints of usage (like timestamping), then the invention can filter and order...as a supervisory terminal having special privileges with respect to altering the contents of the tables in memory 12, In such a case, others of the plural terminals would only be...stored on disks 16a

16b. Typically, each of the tables have at least one join field which links that table to at least one other table in memory 12, Usually, each table further includes at least one join field which allows it to be linked with other tables in the database. The two join fields may be the same field in which case the table is accessed by the...

...which it accesses other tables.

It is possible for there to be more than one join field in each table so as to permit a table to be linked in different ways with different tables, and it is also possible for a table to be joined to several other tables, Various join configurations yield many different structural possibilities. For example, many tables can join into one table ("many-to-one"); one table can include many join fields that branch out to many other tables ("one-to-many"); or many tables can join into one table which in turn joins into many other tables ("many-to-many"), All these structural possibilities create a variety of paths and multidimensionalities in the multipartite graph represented by the tables.

The stru ctural map stored in memory 13 is dependent upon both the structure of the interrelationships in the tables and the organization of information in the individual tables, The structural maps may be derived automatically by the CPU but typically are prepared manually based on the overall structure and interrelationship of the tables,

The display maps stored in memory 14 define the information that is to be displayed...the difference in the

windows definition from

- 34

and

Figure 7, the pathing through the information tables is different than that in Figure 11 and therefore results in different information in the displays.

For example, as shown in Figure 14, which shows pathing through the **tables**, the doctors from the md master **table** 110 that are displayed in Figure 13 are filtered through the targeted department from the department **table** 150 and the targeted times group from the times group **table** 120, Because these

filters are ordered differently than in Figure 12, however, the ultimate information...

...been utilized to present structured information to the operator, But a graphic representation of the database is also usable for viewing structure, adding paths, deleting paths, and deleting data and associated...information needed to display and manipulate the graph itself, The TableEquivDef sections show groups of database table names and index names that are equivalent, i,e,, that are joins, This implicitly indicates those tables that are joined together. The ScreenNodeDef section shows information about the root database tables, i.e., those tables which have partition nodes as indices.

The information includes a screen Title in quotation marks...

...description of
how the node values should be shown on the screen,
For example, the table mdmaster is such a table; it
will be referred to on the screen as "doctors", The
index which defines nodes is mdnum in the mdmaster
table; and the screen representation of each node
value will be one character from md-Fname...

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****APPLICANT****
```

35/5,K/1 (Item 1 from file: 348)

DIALOG(R) File 348: EUROPEAN PATENTS

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01607295

SYSTEM AND METHOD FOR NETWORK AND APPLICATION TRANSPARENT DATABASE

ACCELERATION

SYSTEME ET PROCEDE D'ACCELERATION DE BASES DE DONNEES TRANSPARENTE VIS A

VIS DU RESEAU ET DE L'APPLICATION

PATENT ASSIGNEE:

Nextgig, Inc., (4442440), 10180 Telesis Court, Suite 200, San Diego, CA

92121-2741, (US), (Applicant designated States: all) INVENTOR:

JARDIN , Cary , 12662 Sabre View Cove, San Diego, CA 92128, (US)
PATENT (CC, No, Kind, Date):

WO 2003042833 030522

APPLICATION (CC, No, Date): EP 2002803165 021021; WO 2002US33806 021021

PRIORITY (CC, No, Date): US 39465 011109

DESIGNATED STATES: AT; BE; BG; CH; CY; CZ; DE; DK; EE; ES; FI; FR; GB; GR:

IE; IT; LI; LU; MC; NL; PT; SE; SK; TR

EXTENDED DESIGNATED STATES: AL; LT; LV; MK; RO; SI

INTERNATIONAL PATENT CLASS (V7): G06F-012/00; G06F-015/16; G06F-015/04 LEGAL STATUS (Type, Pub Date, Kind, Text):

Application: 030716 Al International application. (Art. 158(1))

Application: 030716 Al International application entering European

phase

Application: 041222 Al International application. (Art. 158(1))

Appl Changed: 041222 Al International application not entering

European

phase

Withdrawal: 041222 Al Date application deemed withdrawn: 20040610 LANGUAGE (Publication, Procedural, Application): English; English; English

INVENTOR:

JARDIN , Cary ,

# \*\*\*\*APPLICANT\*\*\* (Item 2 from file: 348) 35/5,K/2 DIALOG(R) File 348: EUROPEAN PATENTS (c) 2006 European Patent Office. All rts. reserv. 01487227 LINK-LOCK DEVICE AND METHOD OF MONITORING AND CONTROLLING A LINK FAILURES AND INTRUSIONS VERBINDUNGSPERREINRICHTUNG UND VERFAHREN ZUR UBERWACHUNG UND STEUERUNG EINER VERBINDUNG AUF FEHLER UND UNBEFUGTEN ZUGGRIFF DISPOSITIF DE VERROUILLAGE DE LIAISON ET PROCEDE DE SURVEILLANCE COMMANDE DE LIAISON VISANT A DETECTER DEFAILLANCES ET INTRUSIONS PATENT ASSIGNEE: INTEL CORPORATION, (322933), 2200 Mission College Boulevard, Santa Clara. CA 95052, (US), (Applicant designated States: all) INVENTOR: JARDIN , Cary , A., 12662 Sabre View Cove, San Diego, CA 92128, VARSANYI, Eric, 4100 Ives Lane North, Plymouth, MN 55441, (US) DUCLOS, Phil, J., 12968 Hillcrest Drive, Longmont, CO 80504, (US) PADUA, Vincent, M., 13912 Capewood Lane, 296, San Diego, CA 92128, (US) LEGAL REPRESENTATIVE: Lloyd, Patrick Alexander Desmond (60081), Reddie & Grose 16 Theobalds Road, London WC1X 8PL, (GB) PATENT (CC, No, Kind, Date): EP 1336286 A2 030820 (Basic). WO 2002043342 020530 EP 2001995179 011120; WO 2001US43615 APPLICATION (CC, No, Date): 011120 PRIORITY (CC, No, Date): US 721785 001122 DESIGNATED STATES: DE; FR; GB; NL EXTENDED DESIGNATED STATES: AL; LT; LV; MK; RO; SI INTERNATIONAL PATENT CLASS (V7): H04L-029/06 NOTE: No A-document published by EPO LEGAL STATUS (Type, Pub Date, Kind, Text): 021106 A2 International application. (Art. 158(1)) Application: 021106 A2 International application entering European Application: phase

030820 A2 Published application without search report

030820 A2 Date of request for examination: 20030522

040526 A2 Designated contracting states changed

LANGUAGE (Publication, Procedural, Application): English; English;

## INVENTOR:

English .

Change: 20040408

Application:

Examination:

```
****APPLICANT***
              (Item 3 from file: 348)
 35/5,K/3
DIALOG(R) File 348: EUROPEAN PATENTS
(c) 2006 European Patent Office. All rts. reserv.
01465775.
SPEED SENSITIVE CONTENT DELIVERY IN A CLIENT-SERVER NETWORK
GESCHWINDIGKEITSABHANGIGE INHALTSLIEFERUNG IN EINEM CLIENT-SERVER
NETZWERK
LIVRAISON ACCELEREE DE CONTENU SENSIBLE DANS UN RESEAU SERVEUR-CLIENT
PATENT ASSIGNEE:
  INTEL CORPORATION, (322933), 2200 Mission College Boulevard, Santa
    CA 95052, (US), (Applicant designated States: all)
INVENTOR:
   JARDIN , Cary , A., 12662 Sabre View Cove, San Diego, CA 92128,
(US)
 VARSANYI, Eric, 4100 Ives Lane North, Plymouth, MN 55441, (US)
  DUCLOS, Phil, J., 12968 Hillcrest Drive, Longmont, CO 80504, (US)
  PADUA, Vincent, M., 13912 Capewood Lane, 296, San Diego, CA 92128,
  TRESCOTT, Robert, C., Jr., 18771-63 Caminito Pasedo, San Diego, CA
92128,
    (US)
LEGAL REPRESENTATIVE:
  Loveless, Ian Mark (87731), Reddie & Grose, 16 Theobalds Road, London
   WC1X 8PL, (GB)
PATENT (CC, No, Kind, Date): EP 1325604 A2 030709 (Basic)
                              WO 2002028053 020404
APPLICATION (CC, No, Date):
                              EP 2001975474 010925; WO 2001US30241
010925
PRIORITY (CC, No, Date): US 675818 000928
DESIGNATED STATES: DE; FR; GB
EXTENDED DESIGNATED STATES: AL; LT; LV; MK; RO; SI
INTERNATIONAL PATENT CLASS (V7): H04L-029/12
  No A-document published by EPO
LEGAL STATUS (Type, Pub Date, Kind, Text):
Application:
                 021016 A2 International application. (Art. 158(1))
                 021016 A2 International application entering European
Application:
                            phase
                 030709 A2 Published application without search report
Application:
                 030709 A2 Date of request for examination: 20030423
Examination:
Change:
                 040512 A2 Designated contracting states changed
20040325
Change:
                 060816 A2 Title of invention (German) changed:
20060816
Change:
                 060816 A2 Title of invention (English) changed:
20060816
Change:
                 060816 A2 Title of invention (French) changed:
20060816
```

LANGUAGE (Publication, Procedural, Application): English; English;

#### **INVENTOR:**

English

#### \*\*\*\*APPLICANT\*\*\* (Item 4 from file: 348) 35/5,K/4 DIALOG(R) File 348: EUROPEAN PATENTS (c) 2006 European Patent Office. All rts. reserv. 01252317 METHOD AND SYSTEM FOR MANAGING SECURE CLIENT-SERVER TRANSACTIONS VERFAHREN UND VORRICHTUNG ZUR VERWALTUNG VON GESICHERTEN CLIENT-SERVER TRANSAKTIONEN PROCEDE ET SYSTEME PERMETTANT D'EFFECTUER DES TRANSACTIONS SECURISEES CLIENT-SERVEUR PATENT ASSIGNEE: INTEL CORPORATION, (322932), 2200 Mission College Boulevard, P.O. Box 58119, Santa Clara, CA 95052-8119, (US), (Applicant designated States: all) INVENTOR: JARDIN , Cary , A., 12440 Calle de las Rosas, San Diego, CA 92129, (US) LEGAL REPRESENTATIVE: VOSSIUS & PARTNER (100314), Siebertstrasse 4, 81675 Munchen, (DE) PATENT (CC, No, Kind, Date): EP 1116367 A2 010718 (Basic) WO 200102935 010111 EP 2000939295 000511; WO 2000US13047 APPLICATION (CC, No, Date): 000511 -PRIORITY (CC, No, Date): US 345575 990630 DESIGNATED STATES: DE; FR; GB; IT; NL EXTENDED DESIGNATED STATES: AL; LT; LV; MK; RO; SI INTERNATIONAL PATENT CLASS (V7): H04L-029/06 NOTE: No A-document published by EPO LEGAL STATUS (Type, Pub Date, Kind, Text): 010307 A2 International application. (Art. 158(1)) Application: 010307 A2 International application entering European Application: phase 010718 A2 Published application without search report Application: 010718 A2 Date of request for examination: 20010516 Examination: 040526 A2 Designated contracting states changed Change: 20040408 060913 A2 Title of invention (German) changed: Change: 20060913 060913 A2 Title of invention (English) changed: Change: 20060913

060913 A2 Title of invention (French) changed:

LANGUAGE (Publication, Procedural, Application): English; English;

INVENTOR:

English

Change: 20060913

```
****APPLICANT***
              (Item 5 from file: 348)
 35/5,K/5
DIALOG(R) File 348: EUROPEAN PATENTS
(c) 2006 European Patent Office. All rts. reserv.
SYSTEM AND METHOD FOR MANAGING CLIENT REQUESTS IN CLIENT-SERVER
NETWORKS
SYSTEM UND VERFAHREN ZUM VERWALTEN VON ANFORDERUNGEN DER
BENUTZER IN
   BENUTZER-ANBIETER-NETZE
SYSTEME ET PROCEDE DE GESTION DE DEMANDES CLIENT DANS DES
RESEAUX
    CLIENT/SERVEUR
PATENT ASSIGNEE:
  Ipivot, Inc., (2867590), 12568 Kirkham Court, Poway, CA 92064, (US),
    (Applicant designated States: all)
INVENTOR:
   JARDIN , Cary , A., 12 Calle de las Rosas, San Diego, CA 92129,
  SCHNETZLER, Steven, 28373 Alamar, Valley Center, CA 92082, (US)
LEGAL REPRESENTATIVE:
  VOSSIUS & PARTNER (100314), Siebertstrasse 4, 81675 Munchen, (DE)
PATENT (CC, No, Kind, Date): EP 1099329 A1 010516 (Basic)
                              WO 9952254
                                         991014
                              EP 99912946 990330; WO 99US6911 990330
APPLICATION (CC, No, Date):
PRIORITY (CC, No, Date): US 54304 980402
DESIGNATED STATES: DE; FR; GB; IT; NL
INTERNATIONAL PATENT CLASS (V7): H04L-029/06
CITED PATENTS (WO A): XP 507856
CITED REFERENCES (WO A):
  ADLER R M: "DISTRIBUTED COORDINATION MODELS FOR CLIENT/SERVER
COMPUTING"
    COMPUTER, vol. 28, no. 4, 1 April 1995 (1995-04-01), pages 14-22,
    XP000507856 ISSN: 0018-9162;
NOTE:
  No A-document published by EPO
LEGAL STATUS (Type, Pub Date, Kind, Text):
                010516 A1 Published application with search report
 Application:
                  991215 A1 International application. (Art. 158(1))
 Application:
                  060322 Al Title of invention (French) changed:
 Change:
20060322
                  060322 Al Title of invention (English) changed:
 Change:
20060322
                  060322 Al Title of invention (German) changed:
 Change:
20060322
                  010516 Al Date of request for examination: 20010226
 Examination:
                  030820 Al Date of dispatch of the first examination
 Examination:
                            report: 20030703
                  991215 Al International application entering European
 Application:
                            phase
LANGUAGE (Publication, Procedural, Application): English; English;
```

INVENTOR:

English

# \*\*\*\*APPLICANT\*\*\*

35/5,K/6 (Item 1 from file: 349)

DIALOG(R) File 349: PCT FULLTEXT

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01012900 \*\*Image available\*\*

SYSTEM AND METHOD FOR NETWORK AND APPLICATION TRANSPARENT DATABASE

ACCELERATION

SYSTEME ET PROCEDE D'ACCELERATION DE BASES DE DONNEES TRANSPARENTE VIS A

#### VIS DU RESEAU ET DE L'APPLICATION

Patent Applicant/Assignee:

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, US (Residence), US (Nationality)

Inventor(s):

JARDIN Cary , 12662 Sabre View Cove, San Diego, CA 92128, US, Legal Representative:

GARRED John (agent), Arter & Hadden LLP, 1100 Huntington Building, 925

Euclid Avenue, Cleveland, OH 44115-1475, US,

Patent and Priority Information (Country, Number, Date):

Patent: WO 200342833 A1 20030522 (WO 0342833)

Application: WO 2002US33806 20021021 (PCT/WO US0233806)

Priority Application: US 200139465 20011109

Designated States:

(Protection type is "patent" unless otherwise stated - for applications prior to 2004)

AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ

EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR

LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SD SE SG

SK SL TJ TM TN TR TT TZ UA UG UZ VC VN YU ZA ZM ZW

- (EP) AT BE BG CH CY CZ DE DK EE ES FI FR GB GR IE IT LU MC NL PT SE SK TR
  - (OA) BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG
  - (AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZM ZW
  - (EA) AM AZ BY KG KZ MD RU TJ TM

Main International Patent Class (v7): G06F-012/00

International Patent Class (v7): G06F-015/16; G06F-015/04

Publication Language: English

Filing Language: English

Fulltext Availability:

Detailed Description

Claims

Fulltext Word Count: 4311

#### English Abstract

A method of improving network database performance is disclosed (Fig. 1).

The method comprises steps of determining whether a first network packet

involves a database transaction (14) and then intercepting the packet upon a positive determination. The packet is then examined to determine

the nature of the database transaction (18). Depending on the nature of

the database transaction, a database acceleration technique is selectively implemented (22).

#### French Abstract

L'invention concerne un procede d'amelioration des performances d'une base de donnees en reseau (Fig. 1). Ledit procede comprend les etapes suivantes : determiner si un premier paquet de reseau implique une transaction (14) de base de donnees, et intercepter le paquet lors

determination positive. Ledit paquet est alors examine aux fins de la determination de la nature de la transaction (18) de base de donnees. Selon la nature de ladite transaction de base de donnees, une technique

d'acceleration de base de donnee est mise en oeuvre (22) de maniere selective.

Legal Status (Type, Date, Text)
Publication 20030522 Al With international search report.

Inventor(s):

JARDIN Cary ...

# \*\*\*\*APPLICANT\*\*\*

(Item 2 from file: 349)

DIALOG(R) File 349: PCT FULLTEXT

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\*\*Image available\*\* 00909273

LINK-LOCK DEVICE AND METHOD OF MONITORING AND CONTROLLING A LINK

FAILURES AND INTRUSIONS

DISPOSITIF DE VERROUILLAGE DE LIAISON ET PROCEDE DE SURVEILLANCE ET DE

COMMANDE DE LIAISON VISANT A DETECTER DEFAILLANCES ET INTRUSIONS

Patent Applicant/Assignee:

INTEL CORPORATION, 2200 Mission College Boulevard, Santa Clara, CA 95052,

US, US (Residence), US (Nationality)

Inventor(s):

JARDIN Cary A , 12662 Sabre View Cove, San Diego, CA 92128, US, VARSANYI Eric, 4100 Ives Lane North, Plymouth, MN 55441, US, DUCLOS Phil J, 12968 Hillcrest Drive, Longmont, CO 80504, US, PADUA Vincent M, 13912 Capewood Lane, #296, San Diego, CA 92128, US, Legal Representative:

HARRIS Scott C (agent), Fish & Richardson P.C., Suite 500, 4350 La

Jolla

Village Drive, San Diego, CA 92122, US,

Patent and Priority Information (Country, Number, Date):

WO 200243342 A2-A3 20020530 (WO 0243342) Patent: WO 2001US43615 20011120 (PCT/WO US0143615)

Application: Priority Application: US 2000721785 20001122

Designated States:

(Protection type is "patent" unless otherwise stated - for applications prior to 2004)

BR CN IN SG

(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR Main International Patent Class (v7): H04L-029/06

Publication Language: English

Filing Language: English

Fulltext Availability:

Detailed Description

Claims

Fulltext Word Count: 1705

#### English Abstract

 $ar{\mathtt{A}}$  link lock system for a network is disclosed. The system includes a computer, a network interface device, a bus monitor, and a security switch. The network interface device provides the computer with

access to the network. The bus monitor monitors a link between the network interface device and the computer. The bus monitor reports detected failures or intrusions. The security switch switches the link from a non-secured mode to a secured mode when a report of said detected failures or intrusions is received from the bus monitor.

French Abstract

L'invention concerne un systeme de verrouillage de liaison pour reseau.

Le systeme comprend un ordinateur, un dispositif d'interface de

reseau,

un moniteur de bus et un commutateur de securite. Le dispositif d'interface de reseau permet a l'ordinateur d'acceder au reseau. Le moniteur de bus surveille une liaison entre le dispositif d'interface

reseau et l'ordinateur. Le moniteur de bus signale defaillances ou intrusions. Le commutateur de securite fait passer la liaison d'un

non securise a un mode securise lors de la reception, par le moniteur

bus, d'un rapport signalant une defaillance ou une intrusion detectee.

Legal Status (Type, Date, Text)

Publication 20020530 A2 Without international search report and to be republished upon receipt of that report.

20021010 Request for preliminary examination prior to end Examination of

19th month from priority date

20021128 Late publication of international search report Search Rpt

Republication 20021128 A3 With international search report.

Republication 20021128 A3 Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.

Inventor(s):

JARDIN Cary A ...

# \*\*\*\*APPLICANT\*\*\*\* 35/5,K/8 (Item 3 from file: 349) DIALOG(R)File 349:PCT FULLTEXT (c) 2006 WIPO/Thomson. All rts. reserv. 00894508 \*\*Image available\*\* SPEED SENSITIVE CONTENT DELIVERY IN A CLIENT-SERVER NETWORK LIVRAISON ACCELEREE DE CONTENU SENSIBLE DANS UN RESEAU SERVEUR-CLIENT

Patent Applicant/Assignee: INTEL CORPORATION, 2200 Mission College Boulevard, Santa Clara, CA 95052,

US, US (Residence), US (Nationality)

Inventor(s):

JARDIN Cary A , 12662 Sabre View Cove, San Diego, CA 92128, US, VARSANYI Eric, 4100 Ives Lane North, Plymouth, MN 55441, US, DUCLOS Phil J, 12968 Hillcrest Drive, Longmont, CO 80504, US, PADUA Vincent M, 13912 Capewood Lane, #296, San Diego, CA 92128, US, TRESCOTT Robert C Jr, 18771-63 Caminito Pasedo, San Diego, CA 92128, US,

Legal Representative:

HARRIS Scott C (agent), Fish & Richardson P.C., Suite 500, 4350 La

Village Drive, San Diego, CA 92122, US,

Patent and Priority Information (Country, Number, Date):

Patent: WO 200228053 A2-A3 20020404 (WO 0228053)

Application: WO 2001US30241 20010925 (PCT/WO US0130241)

Priority Application: US 2000675818 20000928

Designated States:

(Protection type is "patent" unless otherwise stated - for applications prior to 2004)

BR CN GB IN SG

(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR Main International Patent Class (v7): H04L-029/12

Publication Language: English

Filing Language: English

Fulltext Availability:

Detailed Description

Claims

Fulltext Word Count: 2514

English Abstract

The response time from a client on a network is measured and a destination address is selected based on the measured response time.

client requests an address from the network. The network may be a local

network or a wide area network such as the Internet. The response time of

the client is measured to determine the optimum speed at which the

may operate. The measured response time is communicated to the server,

where a destination address is selected based on the requested address

and the measured response time. The client may then be connected to

the

destination address.

French Abstract

Selon l'invention, on mesure le temps de reponse d'un client sur un reseau et on selectionne une adresse de destination sur la base du temps

de reponse mesure. Le client execute une demande d'adresse au reseau.

reseau peut etre local ou de longue portee tel que l'Internet. Le temps

de reponse du client est mesure afin de determiner la vitesse optimale a

laquelle le client peut operer. Le temps de reponse mesure est communique

au serveur sur lequel une adresse de destination est selectionnee en . fonction de l'adresse demandee et du temps de reponse mesure. le

peut alors etre connecte a l'adresse de destination.

Legal Status (Type, Date, Text)

Publication 20020404 A2 Without international search report and to be republished upon receipt of that report.

20030103 Late publication of international search report Search Rpt Republication 20030103 A3 With international search report. 20030206 Request for preliminary examination prior to end Examination

19th month from priority date

Inventor(s):

JARDIN Cary A ...

# \*\*\*\*APPLICANT\*\*\*\* (Item 4 from file: 349) DIALOG(R) File 349: PCT FULLTEXT (c) 2006 WIPO/Thomson. All rts. reserv. \*\*Image available\*\* METHOD AND SYSTEM FOR MANAGING SECURE CLIENT-SERVER TRANSACTIONS PROCEDE ET SYSTEME PERMETTANT D'EFFECTUER DES TRANSACTIONS SECURISEES CLIENT-SERVEUR Patent Applicant/Assignee: INTEL CORP, 2200 Mission College Boulevard, P.O. Box 58119, Santa CA 95052-8119, US, US (Residence), US (Nationality) Inventor(s): JARDIN Cary A , 12440 Calle de las Rosas, San Diego, CA 92129, US, Legal Representative: ISRAELSEN Ned A (agent), 16th Floor, 620 Newport Center Drive, Newport Beach, CA 92660, US, Patent and Priority Information (Country, Number, Date): WO 200102935 A2-A3 20010111 (WO 0102935) Patent: WO 2000US13047 20000511 (PCT/WO US0013047) Application: Priority Application: US 99345575 19990630 Designated States: (Protection type is "patent" unless otherwise stated - for applications. prior to 2004) AE AG AL AM AT AT (utility model) AU AZ BA BB BG BR BY CA CH CN CR CU CZ (utility model) DE DE (utility model) DK DK (utility model) DM DZ EE EE (utility model) ES FI FI (utility model) GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KR (utility model) KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SK (utility model) SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW (EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE (OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG (AP) GH GM KE LS MW SD SL SZ TZ UG ZW (EA) AM AZ BY KG KZ MD RU TJ TM Main International Patent Class (v7): H04L-029/06 Publication Language: English Filing Language: English Fulltext Availability: Detailed Description Claims Fulltext Word Count: 5829 English Abstract A server broker configured for use in a secure communication network, such as the Internet. The broker is configured to broker client

transactions received over a secure network link, such as a secure

layer (SSL) link, for distribution among one or more of a plurality

socket

of In one embodiment, the broker establishes a fulfillment servers. non-secure link with the one or more fulfillment servers. In another embodiment, the broker establishes a secure SSL link with the one or

more fulfillment servers. The fulfillment server executes client transactions and sends response packets for delivery to the client.

# French Abstract

L'invention concerne un courtier serveur configure pour s'utiliser dans

un reseau de communication securise tel que l'Internet. Le courtier

configure pour envoyer des transactions de clients du courtier recues dans un lien de reseau securise, tel qu'un lien de protocole SSL, a

plusieurs serveurs d'execution. Dans un mode de realisation, le courtier

etablit un lien non securise avec le ou les serveurs d'execution.

autre mode de realisation, le courtier etablit un lien SSL securise avec

le ou les serveurs d'execution. Le serveur d'execution execute les transactions des clients et envoie des paquets reponse a remettre au client.

Legal Status (Type, Date, Text) 20010111 A2 Without international search report and to be Publication republished upon receipt of that report.

20010503 Late publication of international search report Search Rpt Republication 20010503 A3 With international search report. Inventor(s):

JARDIN Cary A ...

# \*\*\*\*APPLICANT\*\*\* (Item 5 from file: 349) 35/5,K/10 DIALOG(R) File 349: PCT FULLTEXT (c) 2006 WIPO/Thomson. All rts. reserv. \*\*Image available\*\* 00520902 SYSTEM AND METHOD FOR MANAGING CLIENT REQUESTS IN CLIENT-SERVER NETWORKS SYSTEME ET PROCEDE DE GESTION DE DEMANDES CLIENT DANS DES RESEAUX CLIENT/SERVEUR Patent Applicant/Assignee: IPIVOT INC, Inventor(s): JARDIN Cary A , SCHNETZLER Steven, Patent and Priority Information (Country, Number, Date): WO 9952254 Al 19991014 Patent: WO 99US6911 19990330 (PCT/WO US9906911) Application: Priority Application: US 9854304 19980402 Designated States: (Protection type is "patent" unless otherwise stated - for applications prior to 2004) CA IN JP KR AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE Main International Patent Class (v7): H04L-029/06 Publication Language: English Fulltext Availability: Detailed Description Claims Fulltext Word Count: 6791 English Abstract A broker for the management of client requests issued by a client computer over a client-server network. Depending on its availability of resources, the broker determines whether to respond to the client request, or hand-off the client request to another server. The broker supports a virtual connection between the client and the other server, without interfering with communication protocols or disrupting client requests. The other server fulfills client requests by operating in of the broker. The server terminates the virtual connection when all client requests have been completely fulfilled. French Abstract L'invention concerne un courtier destine a gerer les demandes client delivrees par un ordinateur client sur un reseau client/serveur. En

fonction de sa disponibilite de ressources, le courtier determine s'il

peut repondre a la demande client ou s'il doit transferer la demande

autre serveur. Le courtier supporte alors une connexion virtuelle entre

le client et l'autre serveur, sans interferer dans les protocoles de

communication ou interrompre les demandes client. L'autre serveur execute alors les demandes client en agissant a la place du courtier. Le serveur termine la connexion virtuelle lorsque toutes les demandes client ont ete totalement executees.

Inventor(s):
 JARDIN Cary A ...

```
Description
        Items
                DATABASE? OR DATABANK? OR DATA() (BASE? OR BANK? OR FILE? OR
S1
      1188027
              REPOSITOR? OR WAREHOUSE?) OR DB OR RDB OR OODB OR ODBC OR DB-
             MS OR RDBMS
S2
                S1(7N) (TABLE? OR FILE? ? OR COLLECTION? OR MATRI??? OR ARR-
             AY?)
         1040
                S2(3N)(FRACTION? OR PART??? OR PORTION? OR SUBSET? OR FRAG-
S3
             MENT? OR PIECE? OR SEGMENT? OR DETAIL?)
                S2:S3(5N)(ONE OR FIRST? OR 1ST OR PRIMARY OR INITIAL? OR O-
S4
             RIGINAL? OR LEADOFF? OR MAIN OR CHIEF OR INTRODUCTORY?)
               S2:S3(5N)(SECOND OR II OR COUPLE OR 2ND OR TWICE OR ANOTHE-
S5
             R? OR TWIN OR TWO OR DIFFERENT OR ADDITIONAL OR 2)
                S2(5N)(JOIN??? OR COMBIN? OR ADD??? ? OR MERG??? ?)
S6
S7
               S6(5N)(ONE OR FIRST? OR 1ST OR PRIMARY OR INITIAL? OR ORIG-
             INAL? OR LEADOFF? OR MAIN OR CHIEF OR INTRODUCTORY?)
S8
                S6(5N)(SECOND OR II OR COUPLE OR 2ND OR TWICE OR ANOTHER? -
             OR TWIN OR TWO OR DIFFERENT OR ADDITIONAL OR 2)
S9
     17413092
                (OUTPUT? OR OUTPUT?()DIAGNOSTIC? OR READOUT? OR READ()OUT?
             ? OR RESULT?)
                S9(7N) (GENERAT? OR PRODUC? OR CREATE? ? OR CREATING? OR CR-
S10
      1340202
             EATION? OR PROPOGAT? OR DEVELOP? OR YIELD? OR CONSTRUCT???? ? -
             OR MAP??? ? OR MAPPING? ?)
S11
                S9(7N)(ORIGINAT? OR MAKE? OR MAKING? OR INITIAT? OR INTROD-
             UC? OR REPRODUCE? OR REPRODUCING? OR BUILD? OR BUILT? OR MANU-
S12
    27856167
                DETERMIN? OR COMPAR? OR DISCERN? OR ASCERTAIN? OR ANALY? OR
              IDENT? OR CHECK? OR VERIF? OR JUDG??? ?
               MONITOR? OR EXAMIN? OR DETECT? OR UNCOVER? OR REVEAL? OR A-
     16185533
             SSESS? OR EVALUAT? OR INSPECT? OR SCAN???
S14
           10
                (S12:S13 AND S4 AND S7) AND (S12:S13 AND S5 AND S8)
S15
       722631
                S1 AND DATABASE? ?
S16
               S15 AND S7 AND S8
           7
          181
S17
                S15 AND JOIN???(3W)(TABLE? ? OR FILE? ?)
               S17 AND DATABASE? ? AND (QUER??? ? OR DATA) (7N) (PROCESS? OR
S18
              SORT??? ?)
S19
          14
                S18 AND (DETERMIN? OR COMPAR? OR CHECK? OR JUDG?????)
$20
          57
                S18 NOT S19
S21
            4
               S20 AND DATABASE? ? AND (QUER??? ? OR DATA) (7N) (PROCESS? OR
             SORT??? ?)/TI
S22
               S21 NOT (S14 OR S16)
               S20 NOT (S14 OR S16 OR S19 OR S21:S22)
S23
          53
S24
          29 RD (unique items)
S25
          27
               S24 NOT (PY>2003 OR PY=2004:2006)
S26
          2 S24 AND JOIN???(3N)(TABLE? ? OR FILE? ?)/TI
S27
          25
               S25 NOT S26
               AU=(JARDIN C? OR JARDIN, C?)
S28
         355
S29
               CARY (2N) JARDIN
           3
S30
               S28:S29 AND (DATABASE? ? OR (QUER??? ? OR DATA) (7N) (PROCES-
            S? OR SORT??? ?))
      2:INSPEC 1898-2006/Sep W3
File
         (c) 2006 Institution of Electrical Engineers
       6:NTIS 1964-2006/Sep W3
File
         (c) 2006 NTIS, Intl Cpyrght All Rights Res
       8:Ei Compendex(R) 1970-2006/Sep W3
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         (c) 2006 Elsevier Eng. Info. Inc.
     34:SciSearch(R) Cited Ref Sci 1990-2006/Sep W4
File
         (c) 2006 The Thomson Corp
File
     35:Dissertation Abs Online 1861-2006/Sep
         (c) 2006 ProQuest Info&Learning
     56:Computer and Information Systems Abstracts 1966-2006/Sep
         (c) 2006 CSA.
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- File 60:ANTE: Abstracts in New Tech & Engineer 1966-2006/Sep (c) 2006 CSA.
- File 62:SPIN(R) 1975-2006/Sep W3
  - (c) 2006 American Institute of Physics
- File 65:Inside Conferences 1993-2006/Sep 29
  (c) 2006 BLDSC all rts. reserv.
- File 94:JICST-EPlus 1985-2006/Jun W3
  - (c) 2006 Japan Science and Tech Corp (JST)
- File 95:TEME-Technology & Management 1989-2006/Sep W4 (c) 2006 FIZ TECHNIK
- File 99:Wilson Appl. Sci & Tech Abs 1983-2006/Jul
  - (c) 2006 The HW Wilson Co.
- File 111:TGG Natl.Newspaper Index(SM) 1979-2006/Sep 15 (c) 2006 The Gale Group
- File 144: Pascal 1973-2006/Sep W1
  - (c) 2006 INIST/CNRS
- File 239:Mathsci 1940-2006/Nov
  - (c) 2006 American Mathematical Society
- File 256:TecInfoSource 82-2006/Jan
  - (c) 2006 Info. Sources Inc
- File 434:SciSearch(R) Cited Ref Sci 1974-1989/Dec
  - (c) 2006 The Thomson Corp
- File 583:Gale Group Globalbase(TM) 1986-2002/Dec 13
  - (c) 2002 The Gale Group

19/7/2 (Item 2 from file: 2)

DIALOG(R) File 2: INSPEC

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09070684 INSPEC Abstract Number: C2004-10-6160-011

Title: A Bayesian decision model for cost optimal record matching

Author(s): Verykios, V.S.; Moustakides, G.V.; Elfeky, M.G.

Author Affiliation: Coll. of Inf. Studies & Technol., Drexel Univ., Philadelphia, PA, USA

Journal: VLDB Journal vol.12, no.1 p.28-40

Publisher: Springer-Verlag,

Publication Date: 2003 Country of Publication: Germany

CODEN: VLDBFR ISSN: 1066-8888

SICI: 1066-8888(2003)12:1L.28:BDMC;1-W Material Identity Number: O851-2003-001

Language: English Document Type: Journal Paper (JP)

Treatment: Practical (P)

Abstract: In an error-free system with perfectly clean data, construction of a global view of the data consists of linking-in relational joining -two or more tables on their key fields. Unfortunately, most of the time, these data are neither carefully controlled for quality nor necessarily defined commonly across different data sources. As a result, the creation of such a global data view resorts to approximate joins. In this paper, an optimal solution is proposed for the matching or the linking of database record pairs in the presence of inconsistencies, errors or missing values in the data. Existing models for record matching rely on decision rules that minimize the probability of error, that is the probability that a sample (a measurement vector) is assigned to the wrong class. In practice though, minimizing the probability of error is not the best criterion to design a decision rule because the misclassifications of different samples may have different consequences. In this paper we present a decision model that minimizes the cost of making a decision. In particular: (a) we present a decision rule: (b) we prove that this rule is optimal with respect to the cost of a decision: and (c) we compute the probabilities of the two types of errors (Type I and Type II) that incur when this rule is applied. We also present a closed form decision model for a certain class of record comparison pairs along with an example, and results from comparing the proposed cost-based model to the error-based model, for large record comparison spaces. (26 Refs)

Subfile: C

Copyright 2004, IEE

19/7/3 (Item 3 from file: 2)

DIALOG(R) File 2:INSPEC

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08947140 INSPEC Abstract Number: C2004-06-6160D-012

Title: Automating layout of relational databases

Author(s): Sanjay Agrawal; Surajit Chaudhuri; Abhinandan Das; Vivek Narasayya

Author Affiliation: Microsoft Res., USA

Conference Title: Proceedings 19th International Conference on Data Engineering (Cat. No.03CH37405) p.607-18

Editor(s): Dayal, U.; Ramamritham, K.; Vijayaraman, T.M.

Publisher: IEEE, Piscataway, NJ, USA

Publication Date: 2003 Country of Publication: USA xviii+879 pp.

ISBN: 0 7803 7665 X Material Identity Number: XX-2003-03324

U.S. Copyright Clearance Center Code: 0-7803-7665-X/03/\$17.00

Conference Title: Proceedings 19th International Conference on Data Engineering

Conference Sponsor: IEEE Comput. Soc. Tech. Committee on Data Eng

Conference Date: 5-8 March 2003 Conference Location: Bangalore, India

Language: English Document Type: Conference Paper (PA)

Treatment: Practical (P); Experimental (X)

Abstract: The choice of database layout, i.e., how database objects such as tables and indexes are assigned to disk drives can significantly impact the I/O performance of the system. Today, DBAs typically rely on fully striping objects across all available disk drives as the basic mechanism for optimizing I/O performance. While full striping maximizes I/O parallelism, when query execution involves coaccess of two or more large objects, e.g., a merge join of two tables, the above strategy may be suboptimal due to the increased number of random I/O accesses on each disk drive. Here, we propose a framework for automating the choice of database layout for a given database that also takes into account the effects of coaccessed objects in the workload faced by the system. We formulate the above as an optimization problem and present an efficient solution to the problem that judiciously takes into account the trade-off between I/O parallelism and random I/O accesses. Our experiments on Microsoft SQL server show the superior I/O performance of our techniques compared to the traditional approach of fully striping each database object across all disk drives. (18 Refs)

Subfile: C

19/7/5 (Item 5 from file: 2).

DIALOG(R) File 2: INSPEC

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07604969 INSPEC Abstract Number: C2000-07-6160S-013

Title: Parallel spatial join algorithms using grid files

Author(s): Jin-Deog Kim; Bong-Hee Hong

Author Affiliation: Group Dept. of Info-Commun., Pusan Info-Tech. Coll.,

Conference Title: Proceedings 1999 International Symposium on Database Applications in Non-Traditional Environments (DANTE'99) (Cat. No.PR00496) p.226-34

Editor(s): Kambayashi, Y.; Takakura, H.

Publisher: IEEE Comput. Soc, Los Alamitos, CA, USA

Publication Date: 2000 Country of Publication: USA xvi+481 pp.

ISBN: 0 7695 0496 5 Material Identity Number: XX-2000-01043

U.S. Copyright Clearance Center Code: 0 7695 0496 5/2000/\$10.00

Conference Title: Proceedings of 1999 International Symposium on Database Applications in Non-Traditional Environments (DANTE'99)

Conference Sponsor: Grant-in-Aid for Sci. Res. Priority Areas (A); `Adv. Database Syst. Integration of Media & User Environ.'; Kyoto Univ.; Inf. Process. Soc. Japan; ACM Japan; ACM SIGMOD Japan

Conference Date: 28-30 Nov. 1999 Conference Location: Kyoto, Japan

Language: English Document Type: Conference Paper (PA)

Treatment: Practical (P)

Abstract: The most costly spatial operation in spatial databases is a spatial join which combines objects from two data sets based on spatial predicates such as intersects or contains. Even if the execution time of sequential spatial join processing has improved over the last few years, the response time is far from meeting the requirements of interactive users. In this paper, we have designed two kinds of parallel spatial join algorithms based on grid files: a parallel spatial join using a multi-assignment grid file and a parallel spatial join using a single-assignment grid file. Three kinds of methods of task allocation for improving their performances: static, dynamic, and semi-dynamic, have been examined for determining which task allocation strategy bused on grid files shows the best performance. The experimental tests have been conducted on a MIMD parallel machine with shared disks. We conclude that the first join algorithm based on disjoint decomposition of data space outperforms the second based on non-disjoint decomposition. Also, the semi-dynamic task allocation method is the best. (19 Refs)

Subfile: C

19/7/6 (Item 6 from file: 2)
DIALOG(R)File 2:INSPEC
(c) 2006 Institution of Electrical Engineers. All rts. reserv.

06991322 INSPEC Abstract Number: C9809-6160D-014

Title: An extended model for integration between the Oracle DBMS and WWW Author(s): Gi-Hwa Jang; Hyeon Jeong Mun; Soo-Ho Ok; Yong-Tae Woo Author Affiliation: Dept. of Comput. Sci., Changwon Nat. Univ., South

Korea

Conference Title: Proceedings of ICICS, 1997 International Conference on Information, Communications and Signal Processing. Theme: Trends in Information Systems Engineering and Wireless Multimedia Communications (Cat. No.97TH8237) Part vol.1 p.569-72 vol.1

Publisher: IEEE, New York, NY, USA

Publication Date: 1997 Country of Publication: USA 3 vol. xxxiv+1819 pp.

ISBN: 0 7803 3676 3 Material Identity Number: XX97-01537 U.S. Copyright Clearance Center Code: 0 7803 3676 3/97/\$10.00

Conference Title: Proceedings of 1st International Conference on Information Communications and Signal Processing

Conference Date: 9-12 Sept. 1997 Conference Location: Singapore

Language: English Document Type: Conference Paper (PA)

Treatment: Practical (P)

Abstract: In this paper, we propose a new type of gateway for WWW-Oracle interface, called ORAWIS (ORAcle Web Interface System). It supports various types of relational queries on the WWW such as join between two tables, one level nested queries, ORDER BY and GROUP BY operations in a conditional clause. In addition, a application designer can suggest an access method for a table by query selection with a hint option on the WWW. It causes the Oracle optimizer to choose the specified access path. By this function, an application designer can choose more efficient way than the optimizer can determine. The designer can also check the execution time of the SQL statement on the WWW. (8 Refs)

Subfile: C

Copyright 1998, IEE

19/7/7 (Item 7 from file: 2)
DIALOG(R)File 2:INSPEC
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06066298 INSPEC Abstract Number: C9511-6160-006
Title: Multi-table joins through bitmapped join indices

Author(s): O'Neil, P.; Graefe, G.

Author Affiliation: Microsoft Corp., Redmond, WA, USA

Journal: SIGMOD Record vol.24, no.3 p.8-11

Publication Date: Sept. 1995 Country of Publication: USA

CODEN: SRECD8 ISSN: 0163-5808

Language: English Document Type: Journal Paper (JP)

Treatment: Theoretical (T)

Abstract: The paper shows how to combine some well-known techniques to create a method that efficiently executes common multi-table joins. We concentrate on a commonly occurring type of join known as a star-join, although the method presented generalizes to any type of multi-table join. A star-join consists of a central detail table with large cardinality, such as an orders table (where an order row contains a single purchase) with foreign keys that join to descriptive tables, such as customers, products, and (sales) agents. The method uses join indices with compressed bitmap representations, which allow predicates restricting columns of descriptive tables to determine an answer set (or found set) in the central detail table; the method uses different predicates on different descriptive tables in combination to restrict the detail table through compressed bitmap representations of join indices, and easily completes the join of the fully restricted detail table rows back to the descriptive tables. We outline realistic examples where the combination of these techniques yields substantial performance improvements over alternative, more traditional query evaluation plans. (4 Refs)

Subfile: C Copyright 1995, IEE 19/7/8 (Item 8 from file: 2)

DIALOG(R) File 2: INSPEC

(c) 2006 Institution of Electrical Engineers. All rts. reserv.

05690979 INSPEC Abstract Number: C9407-6160D-016

Title: Automatic logical navigation for relational databases

Author(s): Reimers, P.E.; Chung, S.M.

Author Affiliation: Dept. of Comput. Sci. & Eng., Wright State Univ., Dayton, OH, USA

p.343-50

Editor(s): Deaton, E.; George, K.M.; Bergel, H.; Hedrick, G.

Publisher: ACM, New York, NY, USA

Publication Date: 1993 Country of Publication: USA xi+804 pp.

ISBN: 0 89791 567 4

U.S. Copyright Clearance Center Code: 0 89791 568 2/93/0002/0343\$1.50 Conference Title: Proceedings of 8th SIGAPP Symposium on Applied Computing

Conference Sponsor: ACM

Conference Date: 14-16 Feb. 1993 Conference Location: Indianapolis, IN, USA

Language: English Document Type: Conference Paper (PA)

Treatment: Practical (P)

databases have successfully removed the need for Abstract: Relational physical navigation. However, they have failed to provide automatic logical navigation, that is, users must specify a logical access path (or join path) when formulating a query. This becomes difficult and error-prone as the size and complexity of a database structure increase, especially for the casual user who may not be familiar with the structure of the database that he is attempting to query. Also, software applications, including artificial intelligence applications, involving relational databases often require some automated means of determining join paths in order to properly construct queries. A solution based upon the concept of maximal objects is proposed to provide the automatic logical navigation. The solution consists of two parts: the first part is the design of database structures for storing the metadata of the database supported by this solution; the second part is the design of a join path generator which utilizes the metadata to provide a join path for an incomplete user query. The user specifies the target tables (relations) in the "FROM" clause of an SQL query, and the join path generator returns the complete "FROM" clause and the additional "WHERE" clause statements necessary in order to properly join the target tables . (7 Refs) Subfile: C

(Item 9 from file: 2) 19/7/9 DIALOG(R) File 2: INSPEC

(c) 2006 Institution of Electrical Engineers. All rts. reserv.

INSPEC Abstract Number: C9309-6160D-012 Title: Estimating the size of a relational join

Author(s): Mullin, J.K.

Author Affiliation: Dept. of Comput. Sci., Univ. of Western Ontario,

London, Ont., Canada

Journal: Information Systems vol.18, no.3 p.189-96 Publication Date: April 1993 Country of Publication: UK

CODEN: INSYD6 ISSN: 0306-4379

U.S. Copyright Clearance Center Code: 0306-4379/93/\$6.00+0.00

Document Type: Journal Paper (JP) Language: English

Treatment: Practical (P); Theoretical (T)

Abstract: This paper shows how to estimate the size of the natural join of two relations. Such an estimate is valuable in query optimization as joins constitute the bulk of the work required in answering multi-relation queries. The final optimized strategy can be adjusted if an accurate estimate of the size of the resulting joint can be efficiently and reliably determined . The estimate is also valuable in distributed systems. Such systems may do an operation called semijoin. A reliable estimate of the gives sufficient information to size of the final joined table determine whether the semijoin will provide a net gain or net loss in the amount of work required to do the join. The estimation method is based on partial Bloom filters. Bloom filters or segments of filters are prepared from the join attributes of the relations being jointed. It is possible to joined table from the size of the bitwise estimate the size of the intersection of the two filters. Estimates of the average number of replications of the join attribute in relation are also available when building the filters. (13 Refs) Subfile: C

19/7/10 (Item 10 from file: 2)
DIALOG(R)File 2:INSPEC

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05449061 INSPEC Abstract Number: C9309-6160D-005

Title: Tuning a DB2 information warehouse

Author(s): Lyman, N.

Author Affiliation: Travelers Insurance Co., Hartford, CT, USA

Journal: Info DB vol.7, no.2 p.26-9

Publication Date: Spring 1993 Country of Publication: USA

CODEN: IFDBEB ISSN: 0891-6004

Language: English Document Type: Journal Paper (JP)

Treatment: Practical (P)

Abstract: Another finely tuned query rolls off the assembly line-elapsed time: 7 hours, 8 minutes; CPU time: 5 hours, 20 minutes; rows returned: 32,790,712; DSNDB07 requirements: 6000 cylinders; buffer-pool size: 127 megabytes. These are some of the run-time statistics on one of the author's decision support queries. This query joins six tables whose combined row count exceeds 300 million. These are some of the seventy plus tables which make up a pair of information warehouse applications used for decision support and operational processes at The Travelers Insurance Company in Hartford, Connecticut. The author discusses the high volume tests conducted to determine if DB2 was the correct development platform for these applications. (0 Refs)

Subfile: C

(Item 1 from file: 8) 19/7/11 DIALOG(R) File 8:Ei Compendex(R) (c) 2006 Elsevier Eng. Info. Inc. All rts. reserv.

E.I. No: EIP01516767506 05958141

query warehouse Title: Multi-table join algorithm for data processing

Author: Jiang, X.D.; Zhou, L.Z.

Corporate Source: Dept. of Comp. Sci. and Technol. Tsinghua Univ., Beijing 100084, China

Source: Ruan Jian Xue Bao/Journal of Software v 12 n 2 February 2001. p 190-195

Publication Year: 2001

ISSN: 1000-9825 CODEN: RUXUEW

Language: Chinese

Treatment: T; (Theoretical); A; Document Type: JA; (Journal Article) (Applications)

Journal Announcement: 0112W4

Abstract: Multi-Table join is a common operation for evaluating OLAP queries posed to a data warehouse . The performance of this multi-table join is one of the key problems in research of data warehouses . Based on the Star Schema for a data warehouse, this paper introduces a new algorithm M- Join for the multi- table join. Compared with the traditional multi-table join processing by the Relational Database Management System, this new algorithm, taking adequate considerations on warehouse environment, the characteristics of the data in a data completes the join by scanning every table only once, thus greatly improves the performance of OLAP query processing . The paper presents and analyzes the experimental results of this comparison . 8 Refs.

(Item 1 from file: 34) 19/7/12 DIALOG(R) File 34:SciSearch(R) Cited Ref Sci (c) 2006 The Thomson Corp. All rts. reserv.

Number of References: 21 Genuine Article#: 015IQ Title: Distributive join strategy based on tuple inversion

Author(s): Wong WC (REPRINT) ; Bic LF

Corporate Source: Calif State Univ Dominguez Hills, Dept Comp Informat Syst, Carson//CA/90747 (REPRINT); Calif State Univ Dominguez Hills, Dept Comp Informat Syst, Carson//CA/90747 (wcwong@csudh.edu; bic@ics.uci.edu)

Journal: COMPUTING AND INFORMATICS, 2005, V24, N4, P391-413

Publication date: 20050000 ISSN: 1335-9150

Publisher: SLOVAK ACADEMY SCIENCES INST INFORMATICS, DUBRAVSKA CESTA 9, 84237 BRATISLAVA, SLOVAKIA

Document Type: ARTICLE Language: English

Abstract: In this paper, we propose a new direction for distributive join operations. We assume that there will be a scalable distributed computer system in which many computers (processors) are connected through a communication network that can be in a LAN or as part of the Internet with sufficient bandwidth. A relational database is then distributed across this network of processors. However, in our approach, the distribution of the database is very fine-grained and is based on the Distributed Hash Table (DHT) concept. A tuple of a table is assigned to a specific processor by using a fair hash function applied to its key value. For each joinable attribute, an inverted file list is further generated and distributed again based on the DHT. This pre-distribution is done when the tuple enters the system and therefore does not require any distribution of data tuples on the fly when the join is executed. When a join operation request is broadcast, each processor performs a local join and the results are sent back to a processor which, in turn, merges the join results and returns them to the user. Note that the distribution of the DHT of the inverted file lists can be either preprocessed or distributed on the fly. If the lists are preprocessed and distributed, they have to be maintained. We evaluate our approach by comparing it empirically to two other approaches: the naive join method and the fully distributed join method. The results show a significantly higher performance of our method for a wide range of possible parameters.

19/7/13 (Item 1 from file: 35)
DIALOG(R)File 35:Dissertation Abs Online
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01238300 ORDER NO: AAD92-27393

OUERY PROCESSING IN DISTRIBUTED DATABASE SYSTEMS

Author: UNNAVA, VASUNDHARA

Degree: PH.D. Year: 1992

Corporate Source/Institution: THE OHIO STATE UNIVERSITY (0168)

Adviser: HASAN PIRKUL

Source: VOLUME 53/05-A OF DISSERTATION ABSTRACTS INTERNATIONAL.

PAGE 1306. 128 PAGES

During the last decade distributed database management systems (DDBMS) have become important information processing systems supporting business activities of geographically decentralized organizations. Since data files are distributed at several locations in a DDBMS, user queries that reference remote files introduce substantial data communication delays. The efficiency of a DDBMS is determined by the speed with which these queries are processed. This dissertation deals with the optimization of query processing in a relational DDBMS. Our objective is to develop a methodological approach to the design of query processing optimizers. The algorithms developed in this dissertation will be valuable tools in the design of a DDBMS.

The first chapter of the dissertation describes a distributed database environment and the importance of query processing in such an environment. The second chapter presents a detailed literature survey. In the third chapter, a special case of queries, star queries, is defined. The requirement for new algorithms to improve system efficiency is demonstrated. Heuristic procedures using greedy approach and a branch and bound solution procedure are proposed. An efficient lower bounding technique is implemented in the branch and bound procedure. The results of extensive computational experiments indicate that the proposed procedures process star queries effectively. Also, the greedy algorithm proves to be insensitive to errors in the selectivity estimation procedures.

The fourth chapter concentrates on the problem of a generalized star query. The problem, an extension of star query, is significantly harder than the star query problem because its optimization model includes an additional operation of joining files. Heuristic and branch and bound solution methods are developed. Extensive computational testing supports the practical feasibility of the solution methods. Also, rigorous analysis of the generalized star query algorithm in a dynamic mode exhibits that the static version is robust to changes in the procedures used to estimate selectivity.

The fifth chapter investigates the use of heuristics in the general query processing problem. Algorithms for the problem of general query processing, which consider various methods of selecting a semijoin in producing a query processing strategy are proposed. Computational experiments are designed to assess the performance of the proposed algorithms relative to existing algorithms. The analyses show that the proposed algorithms outperform the existing algorithms. Chapter six summarizes our work and also discusses future research directions in the field of query processing in DDBMS.

22/7/4 (Item 1 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)
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06789663 E.I. No: EIP04148097740

Title: Multidimensional Data Partitioning for Parallel Data Processing in Large Data Warehouses

Author: Sun, Junping

Corporate Source: Sch. of Comp./Information Sciences Nova Southeastern University, Fort Lauderdale, FL 33315-3025, United States

Conference Title: 4th International Conference on Computer Science and Informatics, JCIS 1998

Conference Location: Research Triangle Park, NC, United States Conference Date: 19981023-19981028

Sponsor: Association for Intelligent Machinery; Duke University; Elsevier Publishing Company; Information Sciences Journal; US Army Research Office, Research Triangle Park, NC, USA

E.I. Conference No.: 62548

Source: Proceedings of the Joint Conference on Information Sciences v 3 1998.

Publication Year: 1998

Language: English

Document Type: CA; (Conference Article) Treatment: T; (Theoretical)

Journal Announcement: 0404W1

Abstract: Parallel data processing techniques become more and more prevalent because the rapid growing sizes of both databases and data warehouses. Their related queries tremendously increase the complexity of data and query processing and slow down the query processing.

Both data partitioning and load balancing are very critical issues in parallel data processing environment. Query processing for data cube in star schema involves a fact table joining with multiple dimension tables. And these star queries are often found in computing aggregate functions for the applications in large databases and data warehouses. In this paper, we will present a load balance multidimensional data partitioning approach for parallel star query processing in large databases and/or data warehouses. 27 Refs.

22/7/3 (Item 3 from file: 2)
DIALOG(R)File 2:INSPEC

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07441453 INSPEC Abstract Number: C2000-01-6160Z-017

Title: Multidimensional data partitioning for parallel data processing in large data warehouses

Author(s): Junping Sun

Author Affiliation: Sch. of Comput. & Inf. Sci., Nova Southeastern Univ., Fort Lauderdale, FL, USA

Conference Title: Joint Conference on Intelligent Systems 1999 (JCIS'98) Part vol.3 p.317-24 vol.3

Publisher: Assoc. for Intell. Machinery, USA

Publication Date: 1998 Country of Publication: USA 4 vol. 1921 pp.

ISBN: 0 9643456 7 6 Material Identity Number: XX-1999-02892

Conference Title: Proceedings of 6th International Conference on Fuzzy Theory and Technology

Conference Sponsor: Assoc. for Intell. Machinery; Machine Intell. & Fuzzy Logic Lab.; Elsevier Publishing Co.; Inf. Sci. Journal; US Army Res. Office; Lab. for Intell. & Nonlinear Control; Duke Univ

Conference Date: 23-28 Oct. 1998 Conference Location: Research Triangle Park, NC, USA

Language: English Document Type: Conference Paper (PA)

Treatment: Theoretical (T)

Abstract: Parallel data processing techniques are becoming more and more prevalent because of the rapidly growing sizes of both databases and warehouses . Their related queries tremendously increase the complexity of and data query processing and slow down the query processing . Both data partitioning and load balancing are very critical issues in a parallel data processing environment. Query processing data cube in star schema involves a fact table joining with multiple dimension tables . And these star queries are often found in computing aggregate functions for the applications in large databases and warehouses . We present a load balance multidimensional data partitioning approach for parallel star query **processing** in large databases and/or data warehouses . (27 Refs)

Subfile: C

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26/7/1 (Item 1 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)
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04602311 E.I. No: EIP97013495941
Title: Novel parallel join algorithms for grid files
Author: Mohammed, Salahadin; Srinivasan, Bala; Bozyigit, M.; Le, Phu Dung

Corporate Source: Monash Univ, Victoria, Aust Conference Title: Proceedings of the 1996 3rd International Conference on

Conference Title: Proceedings of the 1996 3rd International Conference on High Performance Computing, HiPC

Conference Location: Trivandrum, India Conference Date: 19961219-19961222

Sponsor: IEEE; ACM SIGARCH
E.I. Conference No.: 45855

Source: Proceedings of the 1996 3rd International Conference on High Performance Computing, HiPC 1996. IEEE, Piscataway, NJ, USA, 96TB100074. p 144-149

Publication Year: 1996

CODEN: 002504 Language: English

Document Type: CA; (Conference Article) Treatment: G; (General Review); T; (Theoretical)

Journal Announcement: 9703W2

Abstract: The present advances in parallel and distributed processing and its application to **database** operations such as join resulted in investigating parallel algorithms. Hash based join algorithms involve a costly data partitioning phase prior to the join operation. This paper presents new parallel join algorithms for relations based on grid files where no costly partitioning phase is involved, hence the performance can improve. (Author abstract) 10 Refs.

29/7/1 (Item 1 from file: 56)
DIALOG(R)File 56:Computer and Information Systems Abstracts
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0000387496 IP ACCESSION NO: 200311-81-1541
Not just a prololype rapid prototyping machines are capable of producing usable parts. One of these two diverse approaches might be just what you need.

Elliott, L

Desktop Engineering, v 9, n 1, p 22,24,26,28, Sept. 2003 PUBLICATION DATE: 2003

PUBLISHER: Helmers Publishing, Inc., 174 Concord Street, P.O. Box 874, Peterborough, NH, 03458-0874 COUNTRY OF PUBLICATION: USA

PUBLISHER EMAIL: DE-Editors@helmers.com

DOCUMENT TYPE: Journal Article

RECORD TYPE: Abstract LANGUAGE: English ISSN: 1085-0422

FILE SEGMENT: Computer & Information Systems Abstracts

ABSTRACT:

Xprime Inc., in Poway, CA, makes and sells Microsoft SQL servers. The Jardin , a software expert with experience company's president, Cary gained at Intel and SCM, uses SolidWorks to design the server faceplates, and then makes rapid prototypes in metal, using a Roland MDX 650 mill with optional rotary axis and VisualMill CAM software. He prefers the Roland DGA mill over plastic- based rapid prototyping (RP) systems because it can work with a broader range of materials. He reports that not only can he prototype his parts in the materials he'll use for the final product, but he can also manufacture small runs directly on the Roland equipment. Michael Jones, an electromechanical technician with Bowe Bell & Howell in Lincolnwood, IL, makes rapid prototypes on a Stratasys fused deposition modeling (FDM) system. The company won an important contract for high-capacity document scanners in large part by redesigning the system and testing design improvements using rapid prototypes. In addition, although designers have changed a part called a flag on the paper carriage several times, the plastic "flag hold-down" made in lots of 100 on the Stratasys system has never worn out, nor has the design been replaced. Michael Huggins, president of Precision CADCAM Systems, Hunt Valley, MD, sells equipment and consults for both Stratasys and Roland DGA RP systems. He finds that among his customers, both systems tend to be used at least as much for rapid manufacturing as for RP. "People want to get product off a machine with the fewest possible setups, while they maintain the highest possible quality for usability, " he says. "When someone needs a plastic part, they can go from conceptual design to usable part on a Stratasys system-although the parts tend to be small and may need a little finishing. If someone needs to make a precise part in a hurry, the Roland equipment will do the job." Although the systems are very different in nature, some companies use both. They use the Stratasys FDM approach to create a prototype from which a mold may be made-if the surfaces can be made smooth enough. And they use the Roland DGA mill to finish the surfaces for that purpose.

27/7/4 (Item 4 from file: 2)

DIALOG(R) File 2:INSPEC

(c) 2006 Institution of Electrical Engineers. All rts. reserv.

08387734 INSPEC Abstract Number: C2002-10-6160B-020

Title: AMOS-SDDS: a scalable distributed data manager for Windows multicomputers

Author(s): Ndiaye, Y.; Dilne, A.W.; Litwin, W.; Risch, T.

Author Affiliation: CERIA, Univ. Paris IX Dauphine, France

Conference Title: Proceedings of the ISCA 14th International Conference Parallel and Distributed Computing Systems p.523-9

Editor(s): Sha, E.

Publisher: Int. Soc. Comput. & their Applicatios - ISCA, Cary, NC, USA Publication Date: 2001 Country of Publication: USA viii+529 pp.

ISBN: 1 880843 39 0 Material Identity Number: XX-2002-01770

Conference Title: Proceedings of the ISCA 14th International Conference Parallel and Distributed Computing Systems

Conference Sponsor: Int. Soc. Comput. & their Applications - ISCA Conference Date: 8-10 Aug. 2001 Conference Location: Richardson, TX, USA

Language: English Document Type: Conference Paper (PA)

Treatment: Practical (P)

Abstract: Known parallel DBMS offer at present only static partitioning schemes. Adding a storage node is a cumbersome operation that typically requires the manual data redistribution. We present an architecture termed AMOS-SDDS for a share-nothing multicomputer. We have coupled a high-performance main-memory DBMS AMOS-II and a manager of Scalable Distributed Data Structures (SDDS) into a scalable distributed system SDDS provides the scalable data partitioning in distributed RAM, supporting parallel scans with function shipping. AMOS-SDDS couples both systems using the AMOS-II foreign function interface. Its scalability abolishes the cumbersome storage limits of a single site RAM DBMS technology. Its distributed RAM query processing and scalable data partitioning is an improvement over the current parallel DBMSs technology. We validate AMOS-SDDS architecture by experiments with distributed nested loop join queries over a **file** scaling up to 300,000 tuples. It includes performance study of speed-up and scale-up characteristics. The results encourage the use of SDDS for high-performance database systems. Refs)

Subfile: C

(Item 5 from file: 2) DIALOG(R) File 2:INSPEC (c) 2006 Institution of Electrical Engineers. All rts. reserv. INSPEC Abstract Number: C2002-07-7250-003 Title: Processing a multimedia join through the method of nearest neighbor search Author(s): Kosch, H.; Atnafu, S. Author Affiliation: Inst. of Inf. Technol., Klagenfurt Univ., Austria Journal: Information Processing Letters vol.82, no.5 p.269-76 Publisher: Elsevier, Publication Date: 15 June 2002 Country of Publication: Netherlands CODEN: IFPLAT ISSN: 0020-0190 SICI: 0020-0190(20020615)82:5L.269:PMJT;1-Y Material Identity Number: I206-2002-009 U.S. Copyright Clearance Center Code: 0020-0190/02/\$22.00 Document Number: S0020-0190(01)00279-4 Language: English Document Type: Journal Paper (JP) Treatment: Applications (A); Practical (P) Abstract: Commonly used content-retrieval systems focus on the problem of finding the nearest neighbor (NN-search) for a given single query object out of a database of media objects. However, there are only few attempts that realize join operations on two multimedia tables, where the multimedia data components are represented by their respective feature vectors. The necessity of using multimedia joins in a variety of applications is the motivation behind this search for a more efficient and more general purpose method of performing a **join** on multimedia **tables** . In this perspective, the goal of this paper is to introduce an efficient implementation of such a multimedia join using the method of NN-search. The problem is naturally related to the NN-search for a single query object which suggests a straightforward nested-loop implementation. We show that this implementation. straightforward nested-loop We show implementation can be considerably improved by extending the notion of a query object to a query-sphere. Finally we demonstrate experimentally that our implementation decreases considerably the number of index partitions to

be accessed. (12 Refs)
Subfile: C
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(Item 6 from file: 2) DIALOG(R)File 2:INSPEC (c) 2006 Institution of Electrical Engineers. All rts. reserv. INSPEC Abstract Number: C2002-01-6160-002 Title: Optimization of multiple user-defined functions in a query using interval constraints Author(s): Yang Bo; Hong Xiao-guang; Wang Hai-yang Author Affiliation: Dept. of Comput. Sci., Shandong Univ., Jinan, China Journal: Journal of Software vol.12, no.9 p.1393-8 Publisher: Science Press, Publication Date: Sept. 2001 Country of Publication: China CODEN: RUXUEW ISSN: 1000-9825 SICI: 1000-9825 (200109) 12:9L.1393:0MUD;1-1 Material Identity Number: G255-2001-010 Language: Chinese Document Type: Journal Paper (JP) Treatment: Theoretical (T) How to process user-defined functions incorporated in Abstract: declarative **query** languages efficiently is an important aspect of query optimization. The problem of several user-defined functions in a query clause has not solved in the previous researches. In this paper, a 3-stage optimization plan is put forward which has the potency of **processing** several user-defined functions in a **query** clause: 1) rewrite user-defined functions equivalently in the form of interval constraints; 2) stratify the constraints and eliminate the redundant once; and 3) select the optimal execution strategy. This plan has the virtue of easy implementation and higher efficiency. Especially, when the user-defined functions imply join conditions of several tables , this plan can lead

Subfile: C

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an optimization result. (3 Refs)

27/7/7 (Item 7 from file: 2)

DIALOG(R)File 2:INSPEC

(c) 2006 Institution of Electrical Engineers. All rts. reserv.

INSPEC Abstract Number: C2000-09-7120-021

Title: Queryman-an insiders's quide

Author(s): McLean, H.

Journal: Teradata Review vol.3, no.2 p.38-41, 45

Publisher: Miller Freeman,

Publication Date: Summer 2000 Country of Publication: USA

CODEN: TRADF4

Material Identity Number: H224-2000-002

Language: English Document Type: Journal Paper (JP)

Treatment: Applications (A); Practical (P); Product Review (R)

Abstract: Although First American National Bank initially licensed Platinum Technology's InfoReports query tool, I found I needed functionality that exceeded that product's capabilities. InfoReports is supposed to make the query job easy; and, for simple queries involving one or two tables, it did. However, I quickly found that this tool was not suitable for the complex queries we often required. To monitor the retention, acquisition, and defection of customers, for example, we wanted to measure not only the added or lost households, but also all the added or lost accounts that were associated with those households. (In the automated householding process, accounts may sometimes be split between households or regrouped into new households for arbitrary reasons, such as a change of address form sent in for one but not all associated accounts. This splitting, of course, is not a real indication that we have acquired or lost a customer.) This kind of query requires a derived table. Queryman and Teradata handle derived tables nicely, but InfoReports does not. I also found that InfoReports produced very slow and inefficient SQL code when we needed, for example, outer **joins** . Subqueries, derived **tables** , and temporary tables were similarly difficult or impossible to execute. To meet these advanced user needs, the bank installed Queryman on all Teradata users' PCs. (0 Refs) Subfile: C

27/7/8 (Item 8 from file: 2) DIALOG(R) File 2: INSPEC (c) 2006 Institution of Electrical Engineers. All rts. reserv. INSPEC Abstract Number: C2000-07-6160J-027 Title: Build hierarchical recordsets easily Author(s): Freels, B. Author Affiliation: Catapult Syst. Corp., Austin, TX, USA Journal: Visual Basic Programmer's Journal vol.10, no.7 p.64-70 Publisher: Fawcette Technical Publications, Publication Date: June 2000 Country of Publication: USA CODEN: VBPJF7 ISSN: 1075-1955 SICI: 1075-1955 (200006) 10:7L.64:BHRE;1-I Material Identity Number: G444-2000-007 Language: English Document Type: Journal Paper (JP) Treatment: Practical (P) Abstract: Scalability and resource usage are hot topics of discussion in the ever-changing world of n-tier programming. Network round-trips and expensive database queries can reduce application performance severely and even cause applications to fail. Such fundamental database programming issues confront most developers at some point in their careers, and knowing the most efficient way to approach the issues is essential. I show how to use master/detail database relationships to deal effectively with the problem of **joining** two database tables to present information. You will need ActiveX Data Objects and Visual Basic 6.0. (0 Refs) Subfile: C

27/7/9 (Item 9 from file: 2)

DIALOG(R) File 2:INSPEC

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07566190 INSPEC Abstract Number: C2000-05-6160Z-029

Title: On the independence of data warehouse from databases in maintaining join views

Author(s): Wookey Lee

Author Affiliation: SungKyul Univ., Kyungki, South Korea

Conference Title: Data Warehousing and Knowledge Discovery. First International Conference, DaWaK'99. Proceedings (Lecture Notes in Computer Science Vol.1676) p.86-95

Editor(s): Mohania, M.; Tjoa, A.M.

Publisher: Springer-Verlag, Berlin, Germany

Publication Date: 1999 Country of Publication: Germany xii+400 pp.

ISBN: 3 540 66458 0 Material Identity Number: XX-1999-02851

Conference Title: Data Warehousing and Knowledge Discovery. First International Conference, DaWaK'99. Proceedings

Conference Date: 30 Aug.-1 Sept. 1999 Conference Location: Florence, Italy

Language: English Document Type: Conference Paper (PA)

Treatment: Practical (P)

Abstract: In maintaining data warehouse views without interfering current databases, a join differential file (JDF) scheme is introduced. The scheme uses differential files from relevant logs of databases and join differential files by capturing the referential integrity signal between the base relations. Cost functions are formulated, that analyze the performance of the JDF, the base method, and the pseudo differential method in various conditions. The algorithm is shown to be much better than the other two methods with high communication speed, more screening and small join differential files. (17 Refs)

Subfile: C

27/7/10 (Item 10 from file: 2) DIALOG(R) File 2:INSPEC (c) 2006 Institution of Electrical Engineers. All rts. reserv. INSPEC Abstract Number: C1999-06-6160J-016 07243747 Title: Join index hierarchy: an indexing structure for efficient navigation in object-oriented databases Author(s): Jiawen Han; Zhaohui Xie; Yongjian Fu Author Affiliation: Sch. of Comput. Sci., Simon Fraser Univ., Burnaby, BC, Canada Journal: IEEE Transactions on Knowledge and Data Engineering vol.11, p.321-37 Publisher: IEEE, Publication Date: March-April 1999 Country of Publication: USA CODEN: ITKEEH ISSN: 1041-4347 SICI: 1041-4347(199903/04)11:2L.321:JIHI;1-7 Material Identity Number: N571-1999-003 U.S. Copyright Clearance Center Code: 1041-4347/99/\$10.00 Language: English Document Type: Journal Paper (JP) Treatment: Practical (P); Theoretical (T) Abstract: A novel indexing structure-the join index hierarchy-is proposed handle the "gotos on disk" problem in object-oriented to processing . The method constructs a hierarchy of join indices and transforms a sequence of pointer-chasing operations into a simple search in an appropriate join index file , and thus accelerates navigation in databases . The method extends the join index structure object-oriented studied in relational and spatial databases, supports both forward and backward navigation among objects and classes, and localizes update

propagations in the hierarchy. Our performance study shows that a partial join index hierarchy outperforms several other indexing mechanisms in

Subfile: C

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object-oriented query processing . (34 Refs)

27/7/11 (Item 11 from file: 2) DIALOG(R) File 2:INSPEC (c) 2006 Institution of Electrical Engineers. All rts. reserv. INSPEC Abstract Number: C1999-03-6160D-026 Title: Joins that generalize: text classification using WHIRL Author(s): Cohen, W.W.; Hirsh, H. Author Affiliation: Dept. of Res., AT&T Labs., Florham Park, NJ, USA Conference Title: Proceedings Fourth International Conference on Knowledge Discovery and Data Mining p.169-73 Editor(s): Agrawal, R.; Stolorz, P. Publisher: AAAI Press, Menlo Park, CA, USA Publication Date: 1998 Country of Publication: USA ISBN: 1 57735 070 7 Material Identity Number: XX-1998-02231 Conference Title: Proceedings of the Fourth International Conference on Knowledge Discovery and Data Mining Conference Date: 27-31 Aug. 1998 Conference Location: New York, NY, Language: English Document Type: Conference Paper (PA) Treatment: Practical (P) Abstract: WHIRL is an extension of relational databases that can

perform "soft joins" based on the similarity of textual identifiers; these soft joins extend the traditional operation of joining tables based on the equivalence of atomic values. This paper evaluates WHIRL on a number of inductive classification tasks using data from the World Wide Web. We show that although WHIRL is designed for more general similarity-based reasoning tasks, it is competitive with mature inductive classification systems on these classification tasks. In particular, WHIRL generally achieves lower generalization error than C4.5, RIPPER, and several nearest-neighbor methods. WHIRL is also fast-up to 500 times faster than C4.5 on some benchmark problems. We also show that WHIRL can be efficiently used to select from a large pool of unlabeled items those that can be classified correctly with high confidence. (11 Refs)

Subfile: C Copyright 1999, IEE DIALOG(R) File 2:INSPEC (c) 2006 Institution of Electrical Engineers. All rts. reserv. INSPEC Abstract Number: C9804-6160D-006 Title: Array-based evaluation of multi-dimensional queries in object-relational database systems Author(s): Zhao, Y.; Ramasamy, K.; Tufte, K.; Naughton, J.F. Author Affiliation: Wisconsin Univ., Madison, WI, USA Conference Title: Proceedings. 14th International Conference on Data Engineering (Cat. No. 98CB36164) p.241-9 Publisher: IEEE Comput. Soc, Los Alamitos, CA, USA Publication Date: 1998 Country of Publication: USA xxi+605 pp. ISBN: 0 8186 8289 2 Material Identity Number: XX98-00410 U.S. Copyright Clearance Center Code: 0 8186 8289 2/98/\$10.00 Conference Title: Proceedings 14th International Conference on Data Engineering Conference Sponsor: IEEE Comput. Soc. Tech. Committee on Data Eng Conference Date: 23-27 Feb. 1998 Conference Location: Orlando, FL, USA Document Type: Conference Paper (PA) Language: English Treatment: Practical (P) Abstract: Since multi-dimensional arrays are a natural data structure for supporting multi-dimensional queries, and object-relational (O/R) database systems support multi-dimensional array ADTs (abstract data types), it is natural to ask if a multi-dimensional array-based ADT can be used to improve O/R DBMS performance on multi-dimensional queries. As an initial toward answering this question, we have implemented multi-dimensional array in the Paradise O/R DBMS . In this paper, we describe the implementation of this compressed-array ADT and explore its performance for queries including star-join consolidations and selections. We show that, in many cases, the array ADT can provide significantly higher performance than can be obtained by applying techniques such as bitmap indices and star- join algorithms to relational tables . (16 Refs) Subfile: C

27/7/12

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(Item 12 from file: 2)

(Item 13 from file: 2) 27/7/13 DIALOG(R) File 2:INSPEC (c) 2006 Institution of Electrical Engineers. All rts. reserv. INSPEC Abstract Number: C9801-6160D-002 Title: Normalization on the fly Author(s): Millet, I. Author Affiliation: Behrend Coll., Penn State Erie, Erie, PA, USA Journal: Journal of Systems and Software vol.40, no.1 p.85-8 Publisher: Elsevier, Publication Date: Jan. 1998 Country of Publication: USA CODEN: JSSODM ISSN: 0164-1212 SICI: 0164-1212(199801)40:1L.85:N;1-G Material Identity Number: J325-97012 U.S. Copyright Clearance Center Code: 0164-1212/98/\$19.00 Document Number: S0164-1212(97)00015-0 Language: English Document Type: Journal Paper (JP) Treatment: Practical (P) Abstract: This paper describes a universal technique for data retrieval from a database file afflicted with repeating groups. The procedure relies on a generic "repeater" table which is joined to the unnormalized table . Though the physical data model may violate first normal form, the proposed technique produces a data view that overcomes that violation. The importance of this technique to the design and use of databases is demonstrated through an actual case study. (5 Refs) Subfile: C Copyright 1997, IEE

27/7/14 (Item 14 from file: 2)

DIALOG(R) File 2:INSPEC

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INSPEC Abstract Number: C9712-7330-083

Title: Query access to relational databases via the World-Wide Web

Author(s): Stubbs, M.; Benson, B.J.

Author Affiliation: Center for Limnology, Wisconsin Univ., Madison, WI,

Conference Title: Proceedings of Eco-Informa '96. Global Networks for Environmental Information vironmental Information Part vol.1 p.105-9 vol.1 Publisher: Environ. Res. Inst. Michigan, Ann Arbor, MI, USA

Publication Date: 1996 Country of Publication: USA 2 vol. xxxviii+1027 pp.

ISBN: 0 9603590 7 9 Material Identity Number: XX96-03170

Title: Proceedings of Meeting on Global Networks for Conference Environmental Information: Bridging the Gap Between Knowledge and Application

Conference Sponsor: Environ. Rest. Inst. Michigan, ERIM; Epcot Sci. & Technol.; NASA; et al

Conference Date: 4-7 Nov. 1996 Conference Location: Lake Buena Vista, FL, USA

Language: English Document Type: Conference Paper (PA)

Treatment: Applications (A); Practical (P)

Abstract: At the North Temperate Lakes Long-Term Ecological Research site, our centralized relational database is accessible from the Internet. Initially we used Gopher to serve up flat files of data extracted database tables to Internet users. These files must be maintained separately as the central database is updated. Such files cannot be queried or linked to provide a subset, summary or join of data Search and display capabilities are quite limited. We then investigated low-cost methods to access our database directly and dynamically via the World-Wide Web (WWW). The freeware Perl5 library called Dbperl was tested to provide HTML CGI access to our Oracle 7 database . The PGPLOT.pm and CGI.pm Perl5 modules were also essential. We contrast flat file access with the Perl5 interface we developed. Now our Dbperl development enables WWW users to do interactive queries on the fly and provides the current version of the data. (0 Refs)

Subfile: C

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27/7/15 (Item 15 from file: 2) DIALOG(R) File 2:INSPEC (c) 2006 Institution of Electrical Engineers. All rts. reserv. INSPEC Abstract Number: C9407-6160D-007 Title: Finding compact scheme forests in nested normal form is NP-hard Author(s): Thanisch, P.; Loizou, G.; Nummenmaa, J. Author Affiliation: Dept. of Comput. Sci., Edinburgh Univ., UK Journal: Information and Computation vol.110, no.1 p.19-41 Publication Date: April 1994 Country of Publication: USA CODEN: INFCEC ISSN: 0890-5401 U.S. Copyright Clearance Center Code: 0890-5401/94/\$6.00 Language: English Document Type: Journal Paper (JP) Treatment: Theoretical (T) Abstract: In traditional relational databases , the data are stored in 'flat' tables. Query processing performance is dominated by the cost of joining such tables . By contrast, nested relational structures can avoid joints. If, however, such structures are decomposed into nested normal form (NNF) then the number of normal scheme trees in the resulting nested scheme forest may dominate **query processing** performance. Thus, minimizing the number of such trees is an important design goal. We prove that the problem of finding a succinct NNF scheme forest is NP-hard even for the class of sets of unary multivalued dependencies, which is a subclass of the class of split-free sets of multivalued dependencies. (17 Subfile: C

27/7/16 (Item 16 from file: 2)

DIALOG(R) File 2:INSPEC

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05372339 INSPEC Abstract Number: C9305-6160D-013

Title: Measuring the complexity of join enumeration in query optimization Author(s): Ono, K.; Lohman, G.M.

Author Affiliation: IBM Almaden Res. Center, San Jose, CA, USA

Conference Title: Very Large Data Bases. 16th International Conference on Very Large Data Bases p.314-25

Editor(s): McLeod, D.; Sacks-Davis, R.; Schek, H.

Publisher: Morgan Kaufmann, Palo Alto, CA, USA

Publication Date: 1990 Country of Publication: USA xiii+730 pp.

Conference Sponsor: IEEE; ACM; Australian Airlines; CSIRO; Digital Equipment Corp.; et al

Conference Date: 13-16 Aug. 1990 Conference Location: Brisbane, Qld., Australia

Language: English Document Type: Conference Paper (PA)

Treatment: Practical (P); Theoretical (T)

Abstract: Since relational database management systems typically support only diadic join operators as primitive operations, a query optimizer must choose the 'best' sequence of two-way joins to achieve the N-way join of tables requested by a query. The computational complexity of this optimization process is dominated by the number of such possible sequences that must be evaluated by the optimizer. This paper describes and measures the performance of the Starbust join enumerator, which can parametrically adjust for each query the space of join sequences that are evaluated by the optimizer to allow or disallow: composite tables (i.e., tables that are themselves the result of a join) as the inner operand of a join; and joins between two tables having no joint predicate linking them (i.e., Cartesian products). (18 Refs) Subfile: C

27/7/17 (Item 17 from file: 2) DIALOG(R) File 2: INSPEC (c) 2006 Institution of Electrical Engineers. All rts. reserv. INSPEC Abstract Number: C9303-6160D-019 Title: Query performance evaluation of a relational DBMS Author(s): Grovlen, O.; Due Trier, O. Author Affiliation: Div. of Comput. Syst. & Telematics, Norwegian Inst. of Technol., Trondheim, Norway Conference Title: Second International Workshop on Research Issues on Data Engineering: Transaction and Query Processing (Cat. No.92TH0417-6) p.223 Publisher: IEEE Comput. Soc. Press, Los Alamitos, CA, USA Publication Date: 1992 Country of Publication: USA xi+227 pp. ISBN: 0 8186 2660 7 U.S. Copyright Clearance Center Code: 0 8186 2660 7/92\$3.00 Conference Sponsor: IEEE Conference Date: 2-3 Feb. 1992 Conference Location: Tempe, AZ, USA Language: English Document Type: Conference Paper (PA) Treatment: Practical (P) Abstract: This paper presents a study of query performance in Oracle RDBMS . The test results show that for low selectivity selection queries, indexes are of no help. It is also shown that when joining large parts of tables , sort-merge join performs better than indexed join. (1 Refs)

Subfile: C

27/7/18 (Item 18 from file: 2)
DIALOG(R)File 2:INSPEC
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05304013 INSPEC Abstract Number: C9301-6160B-031

Title: Design and implementation of parallel database processing on a shared memory multiprocessor system

Author(s): Satoh, T.; Hirano, Y.; Honishi, T.; Inoue, U.

Author Affiliation: NTT Network Inf. Syst. Labs., Tokyo, Japan

Conference Title: Future Databases '92. Proceedings of the Second Far-East Workshop on Future Database Systems p.337-46

Editor(s): Qiming Chen; Yahiko Kambayashi; Sacks-Davis, R.

Publisher: World Scientific, Singapore

Publication Date: 1992 Country of Publication: Singapore xii+418 pp.

ISBN: 981 02 1040 X

Conference Date: 26-28 April 1992 Conference Location: Kyoto, Japan

Language: English Document Type: Conference Paper (PA)

Treatment: Practical (P)

Abstract: The time required to execute batch transactions is becoming longer because of the increasing size of databases and because batch transaction queries are becoming more complex. Batch transactions include range queries executed with and without the use of indexes, join queries table merge operations which include index updating. Execution time can be reduced by introducing intra-parallelism in the processing of these transactions. The authors propose a load balancing algorithm and an index structure on a shared memory multiprocessor system to achieve highly scalable intra-parallelism in executing batch transactions. In the proposed algorithm, the number of allocated tasks is dynamically calculated on the basis of the number of remaining tasks and the max/min processing time of each task to decrease the overhead of parallel execution. The proposed index structure is a hybrid structure consisting of some B-trees associated with a hashing function. Highly parallel execution of range queries and table merges requiring index operations is achieved with this hybrid structure. The effects of the adaptive load balancing and hybrid index structure are evaluated by a prototype DBMS implemented in a shared memory multiprocessor. The performance evaluation shows the adaptive algorithm can increase the scalability by 0.1 to 0.2. Range queries and table merging requiring index operations can be easily executed in parallel by using the hybrid index structure. (16 Refs) Subfile: C

27/7/19 (Item 19 from file: 2) DIALOG(R) File 2:INSPEC (c) 2006 Institution of Electrical Engineers. All rts. reserv. INSPEC Abstract Number: C87034999 Title: Distributed database query simulator Author(s): Kocharekar, R. Author Affiliation: World Bank, Washington, DC, USA Conference Title: 1986 Winter Simulation Conference Proceedings p. 732-42 Editor(s): Wilson, J.R.; Henrikson, J.O.; Roberts, S.D. Publisher: SCS, San Diego, CA, USA Publication Date: 1986 Country of Publication: USA xxv+890 pp. ISBN: 0 911801 11 1 Conference Sponsor: American Stat. Assoc.; ACM; IEEE; Inst. Ind. Eng.; SCS; et al Conference Date: 8-10 Dec. 1986 Conference Location: Washington, DC, USA Document Type: Conference Paper (PA) Language: English Treatment: Practical (P)

Abstract: A design methodology for a distributed database simulator (DDQS) is discussed. A distributed database query consists of two different types of sub tasks; the tasks pertaining to the relational database manipulation language, such as project and joins on different files; and the tasks of file transfers. A given query can have any number of subtasks of both types. These tasks are interrelated, and parallel operations can be performed provided the required serialization is maintained. The subtasks compete for common resources; with subtasks from other queries being evaluated at the same time, or, to some degree, with the subtasks from the same query if performed in parallel. The purpose of the DDQS is to evaluate the performance of a given query algorithm in terms of the total query processing time, in a given workload and network architecture. The DDQS uses transaction-oriented GPSS language to simulate the query, while Pascal is used to generate the GPSS source code relevant to the query. The DDQS design is highly modular and simulation of any communication protocol layers or database access methods can be changed without affecting the higher level modules. (7 Refs) Subfile: C

27/7/20 (Item 1 from file: 6) DIALOG(R)File 6:NTIS (c) 2006 NTIS, Intl Cpyrqht All Rights Res. All rts. reserv. 1794901 NTIS Accession Number: N94-22518/2 European Southern Observatory-MIDAS Table File System (Abstract Only) Peron, M.; Grosbol, P. European Southern Observatory, Munich (Germany, F.R.). Corp. Source Codes: 057191000; E6836156 Sponsor: National Aeronautics and Space Administration, Washington, DC. 1992 1p Languages: English Journal Announcement: GRAI9411; STAR3205

In NASA, Washington, Second Annual Conference on Astronomical Data Analysis Software and Systems. Abstracts p 87.

NTIS Prices: (Order as N94-22438/3, PC A07/MF A02)

Country of Publication: Germany

The new and substantially upgraded version of the Table File System in MIDAS is presented as a scientific database system. MIDAS applications for performing database operations on tables are discussed, for instance, the exchange of the data to and from the TFS, the selection of objects, the uncertainty joins across tables , and the graphical representation of data. This upgraded version of the TFS is a full implementation of the binary table extension of the FITS format; in addition, it also supports arrays of strings. Different storage strategies for optimal access of very large data sets are implemented and are addressed in detail. As a simple database , the TFS may be used for the management of personal relational files . This opens the way to intelligent pipeline processing of large amounts of data . One of the key features of the Table File System is to provide also an extensive set of tools for the analysis of the final results of a reduction process. Column operations using standard and special mathematical functions as well as statistical distributions can be carried out; commands for linear regression and model fitting using nonlinear least square methods and user-defined functions are available. Finally, statistical tests of hypothesis and multivariate methods can also operate on tables.

27/7/21 (Item 1 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)
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05412720 E.I. No: EIP99114893551

Title: Hash-based symmetric data structure and join algorithm for OLAP applications

Author: Toyama, Motomichi; Ohara, Akira

Corporate Source: Keio Univ

Conference Title: Proceedings of the 1999 International Database Engineering and Application Symposium, IDEAS'99

Conference Location: Montreal, Que, Can Conference Date: 19990802-19990804

Sponsor: Concordia University E.I. Conference No.: 55503

Source: Proceedings of the International Database Engineering and Applications Symposium, IDEAS 1999. p 231-238

Publication Year: 1999

CODEN: 002754 Language: English

Document Type: JA; (Journal Article) Treatment: T; (Theoretical)

Journal Announcement: 9912W3

Abstract: Star schema is often used in dimensional approaches applied to OLAP applications. The fact table in the star schema typically contains a huge amount of data. When some of the dimension tables are also very large, it may take too much time and storage to join the fact table with these dimension tables. The performance of join algorithm becomes critical under such a condition. The fluent join is a join algorithm that operates on relations organized as multidimensional linear hash files. Like a merge join on relations which are already sorted on the joining key, its execution reads each page in the operand relations no more than once and does not create intermediate result files. Unlike sorting, the multidimensional linear has can cluster records in several keys symmetrically. In this paper, the concept of the fluent join is applied to an OLAP system to cluster records in each table on the joining keys. As a result, the algorithm yields symmetric performances on joins with different dimension tables. (Author abstract) 18 Refs.

27/7/22 (Item 2 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)
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05303304 E.I. No: EIP99064704089

Title: Join index hierarchy: an indexing structure for efficient navigation in object-oriented databases

Author: Han, Jiawei; Xie, Zhaohui; Fu, Yongjian

Corporate Source: Simon Fraser Univ, Burnaby, BC, Can

Source: IEEE Transactions on Knowledge and Data Engineering v 11 n 2 1999. p 321-337

Publication Year: 1999

CODEN: ITKEEH ISSN: 1041-4347

Language: English

Document Type: JA; (Journal Article) Treatment: T; (Theoretical)

Journal Announcement: 9908W2

Abstract: A novel indexing structure - join index hierarchy - is proposed to handle the 'gotos on disk' problem in object-oriented query processing. The method constructs a hierarchy of join indices and transforms a sequence of pointer chasing operations into a simple search in an appropriate join index file, and thus accelerates navigation in object-oriented databases. The method extends the join index structure studied in relational and spatial databases, supports both forward and backward navigations among objects and classes, and localizes update propagations in the hierarchy. Our performance study shows that partial join index hierarchy outperforms several other indexing mechanisms in object-oriented query processing. (Author abstract) 34 Refs.

27/7/23 (Item 3 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)
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03953284 E.I. No: EIP94101422865

Title: NonStop SQL: scalability and availability for decision support Author: Englert, Susanne

Corporate Source: Tandem Computers Inc, Cupertino, CA, USA

Conference Title: Proceedings of the 1994 ACM SIGMOD International Conference on Management of Data

Conference Location: Minneapolis, MN, USA Conference Date: 19940524-19940527

Sponsor: SIGMOD

E.I. Conference No.: 20693

Source: Proceedings of the ACM SIGMOD International Conference on Management of Data v 23 n 2 Jun 1994. Publ by ACM, New York, NY, USA. p 491 Publication Year: 1994

CODEN: 000462 ISBN: 0-89791-639-5

Language: English

Document Type: CA; (Conference Article) Treatment: A; (Applications)

Journal Announcement: 9411W3

Abstract: In 1989, Tandem introduced intra-query parallelism to NonStop SQL. Table scans and aggregates as well as nested-loop and merge joins could be performed in parallel. Near-linear speedup and scaleup were demonstrated for straightforward scans, aggregates and nested loop joins. Scalability is an inherent objective of these environments, since query times should remain relatively constant regardless of the size of the large tables. To improve the scalability of typical decision support queries, Tandem has added parallel implementations of hash joins, cross product joins and hashed groupings to Non Stop SQL. Hash joins are useful when a large table is joined with a smaller one, especially if there are no useful indexes on the join columns. we briefly describe the hash join algorithm and use results from a customer benchmark to illustrate why it is often superior to merge joins and nested-loop joins under the given circumstances. Cross products (or 'star joins') allow small tables to be joined without predicates if there is a subsequent equijoin of the composite table to another table. They can reduce the need to scan large tables in joins. Results from the customer benchmark demonstrate their usefulness. We also describe hashed groupings, which eliminate sorts to form groups for subsequent aggregation. Hashed groupings allow execution of queries in the benchmark that were previously impossible.

27/7/24 (Item 4 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)
(c) 2006 Elsevier Eng. Info. Inc. All rts. reserv.

02746575 E.I. Monthly No: EI8906052972

Title: New JEF/EFF based MATXS-formatted nuclear data libraries.

Author: Vontobel, P.; Pelloni, S.

Corporate Source: Paul Scherrer Inst, Villigen, Switz

Source: Nuclear Science and Engineering v 101 n 3 Mar 1989 p 298-301

Publication Year: 1989

CODEN: NSENAO ISSN: 0029-5639

Language: English

Document Type: JA; (Journal Article) Treatment: T; (Theoretical)

Journal Announcement: 8906

Abstract: Using the NJOY nuclear data processing system, three multigroup MATXS-formatted nuclear data libraries were generated based on the European data files JEF-1 and EFF-1. After processing with TRAMIX, TRANSX, or TRANSX-CTR, these libraries can be read into most transport and diffusion codes. For the neutron analysis of gas-cooled or water moderated thermal reactor systems (including high converter pressurized water reactors), a 70-group WIMS-BOXER structured library was generated. A general-purpose fine-group library in 308 groups is provided for thermal as well as for fast reactor systems. A coupled 175 neutron/42 photon-group library in VITAMIN-J structure was created for the analysis of shielding problems and fusion blanket design. The three MATRXS files can be requested from the Nuclear Energy Agency Data Bank . (Author abstract) 10 Refs.

27/7/25 (Item 1 from file: 35)
DIALOG(R)File 35:Dissertation Abs Online
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01847284 ORDER NO: AADAA-I3024752

Mining decentralized data repositories

Author: Jensen, Viviane Crestana

Degree: Ph.D. Year: 2001

Corporate Source/Institution: University of Michigan (0127)

Chair: Nandit Soparkar

Source: VOLUME 62/08-B OF DISSERTATION ABSTRACTS INTERNATIONAL.

PAGE 3688. 134 PAGES

ISBN: 0-493-35826-9

Technology for data mining, i.e., finding useful trends and patterns in large data repositories, has acquired significant importance with increasing availability of online data. While such technology is typically applied to centrally stored data, real-life database design and management, and performance aspects suggest the mining of decentralized data, which consists of several tables, perhaps obtained via normalization or partitioning and allocation, stored in several repositories with possibly separate administration and schema. The few prior extensions to mining for such data have algorithms developed largely for parallel processing as opposed to addressing the specific issues for decentralized data. Most approaches to mining decentralized data require the separate tables to be joined to form a single table.

In contrast, this dissertation presents techniques for mining decentralized data that do not require the <code>join</code> of all <code>tables</code>. The approach exploits foreign key relationships to develop decentralized algorithms that execute concurrently on the separate tables, and thereafter merge the results. We develop our techniques using the specific example of association rules discovery. Important issues concerning the merging of partial results, the computation and memory requirements, and the associated costs and trade-offs are examined.

Several different decentralized strategies arise, and an algebra is presented which allows enumeration of the many different decentralized mining strategies, each with different processing costs. Based on this algebra, heuristics are developed that reduce the overall computation, I/O, and communication costs. When cost estimates are available for the basic operations, there is an opportunity to optimize for the best strategy in a manner similar to query processing. As such, our approach may be suitably integrated with available query processing algorithms for large-scale decentralized data mining.

Our decentralized approach is empirically validated, and in cases of interest it performs significantly better than the typical centralized approach. Several decentralized alternatives are implemented, and the heuristic rules are validated, i.e., are shown to choose optimal or nearly optimal plans. The decentralized approach presented in this dissertation may be adapted to different counting strategies, different storage structures, incremental mining, and to exploit indices and summary data where available; some of these improvements are infeasible in a centralized approach.

This dissertation provides an approach to decentralized mining that establishes its feasibility and importance, and opens numerous new avenues for research in data mining.

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S26
           73
                S26 NOT (S15 OR S19 OR S23)
S27
           72
                S24 OR S27
S28
          119
                S28 AND (DETERMIN? OR COMPAR? OR CHECK??? OR JUDG?????)
S29
           73
                S29 NOT (PR>2003 OR PR=2004:2006)
S30
           67
                S30 AND (QUER??? ? OR DATA) (2N) (PROCESS??? ? OR SORT??? ?)
S31
           26
           17
                AU=(JARDIN C? OR JARDIN, C?)
S32
S33
            0
                CARY (2N) JARDIN
                S32 AND S1
S34
            9
                S34 NOT (PR>2003 OR PR=2004:2006)
File 350:Derwent WPIX 1963-2006/UD=200661
         (c) 2006 The Thomson Corporation
File 347: JAPIO Dec 1976-2005/Dec (Updated 060404)
          (c) 2006 JPO & JAPIO
```

15/69,K/3 (Item 3 from file: 350)

DIALOG(R) File 350: Derwent WPIX

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0014981836 - Drawing available WPI ACC NO: 2005-329683/200534

XRPX Acc No: N2005-269450

Data file processing system for bank, has input vertical stack processor for transitioning previous version of record into current version for use in creating application input file

Patent Assignee: METAVANTE CORP (META-N)
Inventor: BOUDRIS E J; SCHUMACHER B K
Patent Family (1 patents, 1 countries)
Patent Application

Number Kind Date Number Kind Date Update
US 6886018 B1 20050426 US 2001972075 A 20011005 200534 B

Priority Applications (no., kind, date): US 2001972075 A 20011005

#### Patent Details

Number Kind Lan Pg Dwg Filing Notes

US 6886018 B1 EN 32 18

# Alerting Abstract US B1

NOVELTY - An input vertical stack processor has record transitioning routine for transitioning previous version of record into current version for use in creating application input file, and allows individual records to grow horizontally by using reserved unused space and vertically by adding records without requiring all existing users to make synchronized changes. An application processor processes the application input file.

DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

- 1.destination data file production system; and
- 2.data file processing method.

USE - Used for processing data file such as financial data file in financial institution such as bank.

ADVANTAGE - Enables to implement changes in the record with minimum affect on the users.

DESCRIPTION OF DRAWINGS - The figure shows the block diagram of the data processing service provider.

12 data processing service provider

Title Terms/Index Terms/Additional Words: DATA; FILE; PROCESS; SYSTEM; BANK; INPUT; VERTICAL; STACK; PROCESSOR; VERSION; RECORD; CURRENT; APPLY

## Class Codes

International Classification (Main): G06F-017/00

File Segment: EPI;
DWPI Class: T01

Manual Codes (EPI/S-X): T01-F05E; T01-J05A1; T01-J05B2

Original Publication Data by Authority

#### Original Abstracts:

A system for processing a **data file** which includes versioned records of a fixed length, each record having one or more data...

...portion of the reserve area such that the length of the record is not changed. Additional records may be added to the record set to accommodate new or expanded data fields that exceed the fixed length of the records. Each record of the data file has a version number. The system includes an input vertical stack processor for transitioning previous...

...versioned records including the current version and all previous versions for each record of the data file.

Claims:

...length, said system comprising: an input vertical stack processor including a record transitioning routine for **determining** when a record is a previous record version from said plurality of versioned records and...

0014494675 - Drawing available WPI ACC NO: 2004-675775/200466

Related WPI Acc No: 2004-624649; 2004-675766; 2004-675776; 2004-688879;

2004-689370; 2005-171937 XRPX Acc No: N2004-535531

Query command processing method for use in distributed computing system e.g. database system, involves comparing two portions of database table with two join tables, to generate two intermediate

results files

Patent Assignee: JARDIN C A (JARD-I)

Inventor: JARDIN C A

Patent Family (1 patents, 1 countries)

Patent Application

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Number Kind Date Number Kind Date Update
US 20040181523 A1 20040916 US 2003345504 A 20030116 200466 B

US 2003345811 A 20030116 US 2004808177 A 20040323

Priority Applications (no., kind, date): US 2003345811 A 20030116; US 2003345504 A 20030116; US 2004808177 A 20040323

Patent Details

Number Kind Lan Pg Dwg Filing Notes

US 20040181523 A1 EN 30 13 C-I-P of application US 2003345504 C-I-P of application US 2003345811

#### Alerting Abstract US A1

NOVELTY - The method involves comparing a portion of one database table with two join tables. Another portion of the table is compared with the two join tables to generate two intermediate results files. A final results file is generated from the two intermediate results files. The portions of the two database tables on a node are stored in equal portions. Post-processing operations are executed on the final results file.

DESCRIPTION - An INDEPENDENT CLAIM is included for a distributed database system for processing a database query command in which database tables are stored on nodes, different portions of database table stored on two of the nodes.

USE - Used for processing a query command in a distributed computing system (claimed) e.g. distributed database system and distributed task system.

ADVANTAGE - The method provides a superior performance of high-speed distributed computing system in a clustered environment. The method makes the distributed computing system to return processing results to a requestor in significantly reduced times.

DESCRIPTION OF DRAWINGS - The drawing shows a block diagram of a database system.

100 Database system

110 Client

120 Network

130 Database server

140 Storage

#### Technology Focus

INDUSTRIAL STANDARDS - The node is connected to a secondary node via an inter-nodal communication link conforming to the ~IEEE 1596~ standards.

Title Terms/Index Terms/Additional Words: QUERY; COMMAND; PROCESS; METHOD; DISTRIBUTE; COMPUTATION; SYSTEM; DATABASE; COMPARE; TWO; PORTION; TABLE : JOIN; GENERATE; INTERMEDIATE; RESULT; FILE

#### Class Codes

International Classification (Main): G06F-007/00

(Additional/Secondary): G06F-017/30

File Segment: EPI; DWPI Class: T01

Manual Codes (EPI/S-X): T01-J05B4A; T01-N03A2

Query command processing method for use in distributed computing system e.g. database system, involves comparing two portions of database table with two join tables, to generate two intermediate results files

## Original Titles:

System and method for **generating** and processing **results** data in a distributed system

Alerting Abstract ... NOVELTY - The method involves comparing a portion of one database table with two join tables . Another portion of the table is compared with the two join tables to generate two intermediate results files. A final results file is generated from the two intermediate results files. The portions of the two database tables on a node are stored in equal portions. Post-processing operations are executed on the...

DESCRIPTION - An INDEPENDENT CLAIM is included for a distributed database system for processing a database query command in which database tables are stored on nodes, different portions of database table stored on two of the nodes...

...a superior performance of high-speed distributed computing system in a clustered environment. The method makes the distributed computing system to return processing results to a requestor in significantly reduced times...

Title Terms.../Index Terms/Additional Words: COMPARE;

Original Publication Data by Authority

# Original Abstracts:

Claims:

...the distributed computing system returns processing results to the requestor in significantly reduced times as **compared** to conventional computing systems.

...system in which a plurality of database tables are stored on a plurality of nodes, different portions of at least one database table being stored on at least two of the nodes, the method comprising:storing a first portion of a first database table and a first portion of a second database table on a first node, and storing a second portion of a first database table and a second portion of a second database table on a second node; determining a join table definition in response to a query command, said join table definition identifying a subset of said first database table to include in executing said...

...said first database table in accordance with said join table definition, and generating a second join table from said second portion of said

first database table in accordance with said join table definition; transmitting said first join table to said second node, and transmitting said second join table to said first node; comparing said first portion of said second database table with said first join table...

...first portion of said second database table with said second join table, and comparing said second portion of said second database table with said first join table to generate a second intermediate results file; andgenerating a final results file from said first intermediate results file and said...

(Item 10 from file: 350) 15/69,K/10

DIALOG(R) File 350: Derwent WPIX

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0012839768 - Drawing available WPI ACC NO: 2002-698151/200275

XRPX Acc No: N2002-550581

Optimal correlation order determination method used in SQL database system, involves selecting correlation order having most favorable cost strategy

Patent Assignee: PAULLEY G N (PAUL-I); SYBASE INC (SYBA-N)

Inventor: PAULLEY G N

Patent Family (2 patents, 1 countries)

Application Patent

Date Number Kind Date Update Number Kind 200275 B P 19991207 US 20020116357 A1 20020822 US 1999169547

A 20001206 US 2000732499

A 20001206 200313 E B2 20030204 US 2000732499 US 6516310

Priority Applications (no., kind, date): US 1999169547 P 19991207; US 2000732499 A 20001206

#### Patent Details

Kind Lan Pg Dwg Filing Notes Number 6 Related to Provisional US 1999169547 19 US 20020116357 A1 EN

# Alerting Abstract US A1

NOVELTY - An initial correlation order specifying sequence for accessing one or more tables , is established between two database in response to a requested query. The correlation order is selected, if its cost strategy is favorable.

USE - For determining optimal correlation order in relation database system e.g SQL database system.

ADVANTAGE - Since the correlation order is selected based on the cost strategy, optimal correlation order is determined and complex queries are optimized efficiently.

DESCRIPTION OF DRAWINGS - The figure shows the block diagram of the computer system.

Title Terms/Index Terms/Additional Words: OPTIMUM; CORRELATE; ORDER; DETERMINE; METHOD; SQL; DATABASE; SYSTEM; SELECT; FAVOUR; COST; STRATEGY

## Class Codes

International Classification (Main): G06F-017/30, G06F-007/00

File Segment: EPI; DWPI Class: T01

Manual Codes (EPI/S-X): T01-J05B3; T01-J05B4P

Optimal correlation order determination method used in SQL database system, involves selecting correlation order having most favorable cost - strategy

Alerting Abstract ... NOVELTY - An initial correlation order specifying sequence for accessing one or more tables, is established between two database in response to a requested query. The correlation order is selected, if its cost strategy...

USE - For determining optimal correlation order in relation database system e.g SQL database system...

...Since the correlation order is selected based on the cost strategy, optimal correlation order is **determined** and complex queries are optimized efficiently...

Title Terms.../Index Terms/Additional Words: DETERMINE ;

Original Publication Data by Authority

## Original Abstracts:

A small-footprint relational database system providing a **deterministic** join enumeration methodology for left-deep processing trees is described. By providing a **deterministic** branch-and-bound join enumeration method for left-deep processing trees, the invention is able...

...recalls the cheapest strategy and constructs the detailed access plan for that strategy. Empirical performance results on several production queries show that this approach requires significantly less memory than other deterministic join enumeration approaches, which have been described in the literature...

...A small-footprint relational database system providing a **deterministic** join enumeration methodology for left-deep processing trees is described. By providing a **deterministic** branch-and-bound join enumeration method for left-deep processing trees, the invention is able...

...recalls the cheapest strategy and constructs the detailed access plan for that strategy. Empirical performance results on several production queries show that this approach requires significantly less memory than other deterministic join enumeration approaches, which have been described in the literature.

#### Claims:

What is claimed is: b 1 /b . In a relational database system, a method for determining an optimal join order for use in an access plan employed for executing a database query, the method comprising:receiving a query specifying at least one join condition between two or more database tables; establishing an initial join order, based on each table's size and join predicates between the tables, said initial...

...table and one or more subsequent join positions specifying one or more successive inner tables; **determining** a strategy cost for satisfying the query using a query access plan that employs said...

...positions of the join order and proceeding to be outermost position of the join order, evaluating other candidate join orders by swapping ordering of tables at a given position with those at subsequent positions and thereafter determining the cost strategy for that join order; and if a given candidate join order under...

...What is claimed is:1. In a relational database system, a method for determining an optimal join order for use in an access plan employed for executing a database query, the method comprising:receiving a query specifying at least one join condition between two or more database tables; establishing an initial join order, based on each table's size and join predicates between the tables...

...an outer table and one or more subsequent join positions specifying one or more successive inner tables; determining a strategy cost for satisfying the query using a query access plan that...

...the innermost positions of the join order and proceeding to be outermost position of the join order, evaluating other candidate join orders by

swapping ordering of tables at a given position with those at subsequent positions and thereafter determining the cost strategy for that join order; andif a given candidate join...

15/69,K/11 (Item 11 from file: 350)

DIALOG(R) File 350: Derwent WPIX

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0011129158 - Drawing available

WPI ACC NO: 2002-065646/200209

Related WPI Acc No: 1998-209796; 1998-209797; 1998-350590; 2000-507549;

2000-627641; 2001-578747; 2002-048423; 2002-236205

XRPX Acc No: N2002-048760

Electronic design compilation method for e.g. integrated circuit, involves creating variation design by applying variation assignment to group of logic functions that are not provided in assignment data of base design

Patent Assignee: ALTERA CORP (ALTE-N)

Inventor: HEILE F B; RAWLS T V

Patent Family (1 patents, 1 countries)

Patent Application

Number Kind Date Number Kind Date Update
US 6321369 B1 20011120 US 199629277 P 19961028 200209 B

US 1997958626 A 19971027

Priority Applications (no., kind, date): US 199629277 P 19961028; US 1997958626 A 19971027

#### Patent Details

Number Kind Lan Pg Dwg Filing Notes

US 6321369 B1 EN 24 10 Related to Provisional US 199629277

# Alerting Abstract US B1

NOVELTY - A variation design is created by applying variation assignment to group of logic functions, which specifies one of style, logic option, clique assignment, position and timing requirements, family, device, speed grade and global default parameter that are not provided in the assignment data of a base design. Using a GUI, the base and variation designs are selected for compilation, and the compiled design is output to respective files.

DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

- 1. Electronic design designing apparatus;
- 2.Design tool;
- 3.Computer readable medium storing data structure used in computer for electronic circuit designing

USE - For creating and refining electronic design for multiple electronic circuits e.g. multichip module and integrated circuits, programmable logic circuits such as programmable logic arrays and programmable gate arrays, etc.

ADVANTAGE - Provides simple mechanism by allowing designer to efficiently create, maintain and **compare** multiple variations of the design. Provides convenient user interface and associated variation control system. Eliminates the need to create separate programs or scripts that parse through and modify existing design files in an effort to create and compile variation design.

DESCRIPTION OF DRAWINGS - The figure shows the block diagram of the associated data file that includes both base design and variation changes of the associated data.

Title Terms/Index Terms/Additional Words: ELECTRONIC; DESIGN; COMPILE; METHOD; INTEGRATE; CIRCUIT; VARIATION; APPLY; ASSIGN; GROUP; LOGIC;

FUNCTION; DATA; BASE

#### Class Codes

International Classification (Main): G06F-017/50

File Segment: EPI;
DWPI Class: T01

Manual Codes (EPI/S-X): T01-J12B1; T01-J15A1; T01-J15A2; T01-S03

Alerting Abstract ... ADVANTAGE - Provides simple mechanism by allowing designer to efficiently create, maintain and compare multiple variations of the design. Provides convenient user interface and associated variation control system. Eliminates...

Original Publication Data by Authority

## Original Abstracts:

A method is provided in which a base design is generated in the form of one or more data files including assignment data. A variation design is created by adding at least one additional assignment associated with the variation design to the assignment data. The assignment data has an identifier that is associated with an entity defined within the base design, a first data field that can be used in making an assignment to the entity within the...

...for use in making the additional assignment to the entity within the variation design. The data files are compiled to generate a base output file and one or more variation output design files that can include one or more common result values. Comparison data is generated by comparing the common result values associated with the base design file and the variation design file. A design tool...

...accepting inputs from a user. The selector generates a base design in the form of **one** or more **data files** including assignment data. The variation mechanism generates a variation design by adding at least one... Claims:

...method comprising:providing a graphical user interface; providing a base design, said base design including one or more data files including assignment data; creating a variation design by applying at least one variation assignment to...

19/69,K/1 (Item 1 from file: 350)

DIALOG(R) File 350: Derwent WPIX

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0015387707 - Drawing available WPI ACC NO: 2005-732284/200575

XRPX Acc No: N2005-602769

Tables exclusion join performing method for use in database system, involves performing Boolean operations using bitmap entries of star maps to produce entries in another star map

Patent Assignee: NCR CORP (NATC)

Inventor: RAMESH B

1 countries) Patent Family (1 patents,

Application Patent

Number Kind Date Update Number Kind Date US 6957210 B1 20051018 US 200138783 A 20011231 200575 B

Priority Applications (no., kind, date): US 200138783 A 20011231

## Patent Details

Pg Dwg Filing Notes Number Kind Lan

US 6957210 B1 EN 18

## Alerting Abstract US B1

NOVELTY - The method involves performing Boolean operations using bitmap entries of star maps to produce bitmap entries in a star map, where there is a corresponding set bitmap entry in one of the former maps and no corresponding set bitmap entry in the other former map. The latter map is used to identify qualifying rows from a table. The identified qualifying rows are provided as an exclusion join result.

DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

- 1.a computer program, stored on a tangible storage medium, for performing an exclusion join of two tables
- 2.a database system for accessing a database , comprising a massively parallel processing system.

USE - Used for performing exclusion join of two tables , in a database system (claimed) that is utilized in e.g. personal computer, mainframe and minicomputer.

ADVANTAGE - The utilization of the star maps improves the performance of exclusion joins that have low join cardinality.

DESCRIPTION OF DRAWINGS - The drawing shows an illustration of a hardware and software environment that is used with tables exclusion join performing method.

- 104 Network
- 108 Data communications units
- 112 Parallel data extensions
- 116 Access module processor
- 118 Partitioned relational database

Title Terms/Index Terms/Additional Words: TABLE; EXCLUDE; JOIN; PERFORMANCE ; METHOD; DATABASE ; SYSTEM; BOOLEAN; OPERATE; ENTER; STAR; MAP; PRODUCE

### Class Codes

International Classification (Main): G06F-017/30

File Segment: EPI; DWPI Class: T01

Manual Codes (EPI/S-X): T01-E02C; T01-J05B3; T01-J05B4M; T01-S03

Tables exclusion join performing method for use in database system, involves performing Boolean operations using bitmap entries of star maps to produce entries in...

Alerting Abstract ...corresponding set bitmap entry in the other former map. The latter map is used to identify qualifying rows from a table. The identified qualifying rows are provided as an exclusion join result....a computer program, stored on a tangible storage medium, for performing an exclusion join of two tables a database system for accessing a database, comprising a massively parallel processing system...

... USE - Used for performing exclusion join of two tables, in a database system (claimed) that is utilized in e.g. personal computer, mainframe and minicomputer...

... The drawing shows an illustration of a hardware and software environment that is used with tables exclusion join performing method...

...118 Partitioned relational database

Title Terms.../Index Terms/Additional Words: DATABASE;

Original Publication Data by Authority

## Original Abstracts:

A method, computer program and database system are disclosed for performing an exclusion join of at least a first table T...

...Each Star Map includes bitmap entries having locations indexed by the hash of one or more values associated with one or more join key columns of its associated table. The method, computer program, and database system include a) performing one or more Boolean operations using the bitmap entries of the Star...

...there is a corresponding set bitmap entry in S b 1 /b and no corresponding set bitmap entry in S b 2 /b; b) using SJ to identify qualifying rows from the first table T... Claims:

...there is a corresponding set bitmap entry in S b 1 /b and no corresponding set bitmap entry in S b 2 /b; b) using SJ to identify qualifying rows from the first table T...

19/69,K/2 (Item 2 from file: 350)

DIALOG(R) File 350: Derwent WPIX

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0014273261 - Drawing available

WPI ACC NO: 2004-459670/ XRPX Acc No: N2004-364027

Data sorting method in parallel object-relational database management system, involves sorting of join index according to respective record identifiers of tables, and performing join operation between spatial join attributes

Patent Assignee: NCR CORP (NATC)

Inventor: ELLMANN C J; LUO G; NAUGHTON J F
Patent Family (1 patents, 1 countries)
Patent Application

Number Kind Date Number Kind Date Update
US 6745198 B1 20040601 US 2001878569 A 20010611 200443 B

Priority Applications (no., kind, date): US 2001878569 A 20010611

Patent Details

Number Kind Lan Pg Dwg Filing Notes

US 6745198 B1 EN 19 12

## Alerting Abstract US B1

NOVELTY - A join index having record identifiers corresponding to the tables stored in the database, is received. The join index is sorted according to one of the record identifiers and is resorted according to another record identifier. The join operation is performed between the spatial join attributes using the resorted portion of the join index.

DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

- 1.data sorting system; and
- 2.article comprising medium storing data sorting program;
- 3.computer-implemented method of updating join index; and
- 4.article comprising medium storing join index updating program.

USE - For sorting data in parallel object-relational database management system (ORDBMS).

ADVANTAGE - The join indices provides efficient access to auxiliary relations during joining operations. Hence, the parallel spatial join operations are performed effectively, in the **database** system.

DESCRIPTION OF DRAWINGS - The figure shows the flowchart explaining the parallel spatial join operation.

Title Terms/Index Terms/Additional Words: DATA; SORT; METHOD; PARALLEL; OBJECT; RELATED; DATABASE; MANAGEMENT; SYSTEM; JOIN; INDEX; ACCORD; RESPECTIVE; RECORD; IDENTIFY; TABLE; PERFORMANCE; OPERATE; SPACE; ATTRIBUTE

#### Class Codes

International Classification (Main): G06F-017/30

File Segment: EPI; DWPI Class: T01

Manual Codes (EPI/S-X): T01-E01A; T01-J05B4A; T01-J05B4B; T01-J05B4M; T01-S03

Data sorting method in parallel object-relational database management system, involves sorting of join index according to respective record identifiers of tables, and performing join operation between spatial join attributes

Alerting Abstract ...NOVELTY - A join index having record identifiers corresponding to the tables stored in the database, is received. The join index is sorted according to one of the record identifiers and is resorted according to another record identifier. The join operation is performed between the spatial join attributes using the resorted portion of

... USE - For sorting data in parallel object-relational database management system (ORDBMS...

...relations during joining operations. Hence, the parallel spatial join operations are performed effectively, in the database system...

Title Terms.../Index Terms/Additional Words: DATABASE ; ...

... IDENTIFY ;

Original Publication Data by Authority

#### Claims:

What is claimed is: 1. A method for use in a database system comprising: receiving a portion of a join index, wherein the join index comprises first record identifiers from a first table stored in the database system and second record identifiers from a second table stored in the database system, wherein the join index is sorted according to first record identifiers from the first table; resorting the portion of the join index according to second record identifiers from the second table; and performing join operations between first and second spatial join attributes using the resorted portion of the join...

19/69, K/3 (Item 3 from file: 350)

DIALOG(R) File 350: Derwent WPIX

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0010369726 - Drawing available WPI ACC NO: 2000-685829/200067

Related WPI Acc No: 1999-276580

XRPX Acc No: N2000-506958

Computerized database query request generating method, involves generating database query request including link between fields in tables, using list of fields provided in response to query request information

Patent Assignee: NETSCAPE COMMUNICATIONS CORP (NETS-N)

Inventor: GUHA R V

Patent Family (1 patents, 1 countries)
Patent Application

 Number
 Kind
 Date
 Number
 Kind
 Date
 Update

 US 6108651
 A 20000822
 US 1997925632
 A 19970909
 200067
 B

US 1999243210 A 19990202

Priority Applications (no., kind, date): US 1997925632 A 19970909; US 1999243210 A 19990202

#### Patent Details

Number Kind Lan Pg Dwg Filing Notes

US 6108651 A EN 18 15 Continuation of application US 1997925632

## Alerting Abstract US A

NOVELTY - A query including conjunction of MCF literal each of which comprising predefined term that defines the relation between fields in table and concept, is received in response to which a list of fields to be queried from respective tables are provided. Using list of fields, a database query request which includes link between fields is generated.

DESCRIPTION - An INDEPENDENT CLAIM is also included for heuristic engine.

USE - For generating database query request for performing join

across tables in heterogeneous database.

ADVANTAGE - Automatically generating database query request to perform links across tables in heterogeneous database is enabled thereby user is enabled to access the database without knowledge of database schemes and without the need for management information specialist (MIS) person.

DESCRIPTION OF DRAWINGS - The figure shows flowchart illustrating the method of generating database query request.

Title Terms/Index Terms/Additional Words: DATABASE; QUERY; REQUEST; GENERATE; METHOD; LINK; FIELD; TABLE; LIST; RESPOND; INFORMATION Class Codes

International Classification (Main): G06F-017/30

File Segment: EPI; DWPI Class: T01

Manual Codes (EPI/S-X): T01-J05B3; T01-J05B4M; T01-J16C6

Computerized database query request generating method, involves generating database query request including link between fields in tables, using list of fields provided in response...

## Original Titles:

Heuristic co- identification of objects across heterogeneous information sources.

Alerting Abstract ...of fields to be queried from respective tables are provided. Using list of fields, a database query request which includes link between fields is generated.... USE - For generating database query request for performing join across tables in heterogeneous database.

...ADVANTAGE - Automatically generating database query request to perform links across tables in heterogeneous database is enabled thereby user is enabled to access the database without knowledge of database schemes and without the need for management information specialist (MIS) person...

...DESCRIPTION OF DRAWINGS - The figure shows flowchart illustrating the method of generating database query request.

Title Terms/Index Terms/Additional Words: DATABASE;

Original Publication Data by Authority

## Original Abstracts:

A method and system for generating a database query language request for performing a join between a plurality of database tables including a first database table and a second database table. The first table includes a first plurality of fields and the second database table includes a second plurality of fields, where each one of the plurality of fields has a particular meaning...

...and second fields have the same meaning. After mapping the literals to the expressions, the **database** query language request is generated using the list of fields, such that the **database** query language request includes a join between the first and **second** fields. The **first** and **second** tables are then queried using the **database** query language request to provide the requested information.

Claims:

A computer-implemented method for generating a **database** query request, comprising the steps of:receiving a query requesting information;providing a list of...

...queried, the list of fields including a first field from a first table and a second field from a second table; generating a database query request using the list of fields, said database query request including a join between the first and second fields; andwherein said query...

19/69, K/4 (Item 4 from file: 350)

DIALOG(R) File 350: Derwent WPIX

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0008104989 - Drawing available WPI ACC NO: 1997-203091/199718

Related WPI Acc No: 1997-244711

XRPX Acc No: N1997-167769

First and second input table join for database system - involves first input table's records into fast memory for sorting by second table's index and output to first files with second table's indexes written to second files

Patent Assignee: UNIV COLUMBIA NEW YORK (UYCO)

Inventor: LI Z; ROSS K A

Patent Kind Date Update Kind Date Number Number A 19960919 WO 1996US15221 199718 A1 19970327 WO 1997011433 19950921 199742 19970909 US 1995531789 Α Α US 5666525 Α 19950921 199842 E Α 19980901 US 1995531789 US 5802357

US 1996632958 A 19960416

Priority Applications (no., kind, date): US 1995531789 A 19950921; US 1996632958 A 19960416

## Patent Details

Number Kind Lan Pg Dwg Filing Notes

WO 1997011433 A1 EN 117 16

National Designated States, Original: CA JP

Regional Designated States, Original: AT BE CH DE DK ES FI FR GB GR IE IT

LU MC NL PT SE

US 5666525 A EN 26 9

US 5802357 A EN C-I-P of application US 1995531789

# Alerting Abstract WO A1

The database join method involves reading a portion of a join index and the first input table's records identified by the read join index into a relatively fast memory. The first table's records are sorted by the second tables index entry in the read join index. The read records from the first input table are written to separate first output files and the second sorted table's index entries are written to second files. These steps are repeated until all portions of the join index are read.

The second output files are merged to a lowest second index table entry which has not been previously identified during the join. A record is read from the second input table corresponding to the lowest index entry. The record is placed in an appropriate output buffer. The previous two steps are repeated until all the join index identifiers are processed.

ADVANTAGE - Provides efficient joining of multiple large tables in database system using processor with small main memory.

Title Terms/Index Terms/Additional Words: FIRST; SECOND; INPUT; TABLE; JOIN
 ; DATABASE ; SYSTEM; RECORD; FAST; MEMORY; SORT; INDEX; OUTPUT; FILE;
 WRITING

#### Class Codes

International Classification (Main): G06F-017/30
 (Additional/Secondary): G06F-007/22

File Segment: EPI;
DWPI Class: T01

Manual Codes (EPI/S-X): T01-J05B4M

First and second input table join for database system...

## Original Titles:

System and method for performing an efficient **join** operation on large **tables** with a small main memory...

... PERFORMING EFFICIENT JOIN OPERATIONS ON LARGE TABLES

Alerting Abstract ... The database join method involves reading a portion of a join index and the first input table's records identified by the read join index into a relatively fast memory. The first table's records...

...files are merged to a lowest second index table entry which has not been previously identified during the join. A record is read from the second input table corresponding to the...

...an appropriate output buffer. The previous two steps are repeated until all the join index identifiers are processed...

...ADVANTAGE - Provides efficient **joining** of multiple large **tables** in **database** system using processor with small **main** memory.

Title Terms.../Index Terms/Additional Words: DATABASE;

Original Publication Data by Authority

## Original Abstracts:

A technique for efficiently joining multiple large tables in a **database** system with a processor using a small main memory. The technique utilizes a join index...

- ...A technique for efficiently joining multiple large tables in a database system with a processor using a small main memory. The technique utilizes a join index...
- ...partitions memory to be used for an efficient join operation. The third technique, called parallel-join, processes each input table completely independently using the parallel-merge technique. The parallel-merge technique identifies the lowest value from multiple files and orders all the values from lowest to highest...
- ...A technique for efficiently joining multiple large tables in a database system with a processor using a small main memory. The technique utilizes a join index...
- ...embodiments are described which all use a parallel-merge operation. The first technique, a slam- join, joins two tables without a pre-allocation of buffers as buffers (111 and 112) are used latter in...
- ...three or more tables adding a merge technique which prepartitions memory. The third technique, parallel-join, processes each input table completely independently. The parallel-merge technique identifies the lowest value from multiple files and orders all values from lowest to highest.This...

  Claims:
- ...a plurality of input tables comprised of records stored in a first memory in a database system which includes said first memory and a relatively high speed second memory having a...

- ...A method for joining in a database system a first and second input table each comprised of records stored in a first memory using a join index, wherein said...
- ...a) reading a portion of said join index and said first input table's records **identified** by said read join index into a second, relatively fast main memory; (b) sorting said...
- ...until all portions of said join index are read; (e) merging said second files to identify a lowest second table index entry from said second files, wherein said lowest index entry has not yet been previously been identified during said joining method, and reading a record from said second input table that corresponds...
- ...appropriate output buffer; and(g) repeating steps (e) and (f) until all the join index identifiers are processed.

19/69,K/5 (Item 5 from file: 350)

DIALOG(R) File 350: Derwent WPIX

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0007265871

WPI ACC NO: 1995-322699/ XRPX Acc No: N1995-242922

Database join processing system - joins relations based on join fields in

relational database

Patent Assignee: MITSUBISHI DENKI KK (MITQ); MITSUBISHI ELECTRIC CORP

(MITQ)

Inventor: MATSUMOTO T

Patent Family (4 patents, 3 countries)

Patent			Application				
Number	Kind	Date	Number	Kind	Date	Update	
GB 2287807	Α	19950927	GB 19952768	Α	19950213	199542	В
JP 7253991	A	19951003	JP 199445620	Α	19940316	199548	E
US 5613142	A	19970318	US 1995388616	A	19950214	199717	E
GB 2287807	В	19980506	GB 19952768	Α	19950213	199820	E

Priority Applications (no., kind, date): JP 199445620 A 19940316

## Patent Details

Number	Kind	Lan	Pg	Dwg	Filing Notes
GB 2287807	A	EN	124	23	
JP 7253991	Α	JA	24		
US 5613142	Α	EN	48	23	

#### Alerting Abstract GB A

The system joins distributed data with a join key and produces a joined table (100,200). Recording devices, disk drives (4a-4d) store the distributed data e.g. employee data (5a-5d) and sales data (6a-6d). Slave-processors (3a-3d) are coupled to the recording devices to retrieve the data and output the data. The main processor (1) receives the data from the slave-processors and produces the joined table.

Each slave-processor checks a join key of the second data, sales data, with a join key of the first data. Based on the checking result it selects the second data (400a-400d) and outputs the data to the main processor.

USE/ADVANTAGE - Provides high speed joining, eliminates burden on master processor as data distributed and stored in slave processors, part of join processing done in parallel.

Title Terms/Index Terms/Additional Words: DATABASE; JOIN; PROCESS; SYSTEM; RELATED; BASED; FIELD

#### Class Codes

International Classification (Main): G06F-017/30, G06F-007/08, G06F-007/32 (Additional/Secondary): G06F-012/00, G06F-012/04, G06F-007/14, G06F-007/36

File Segment: EPI;
DWPI Class: T01

Manual Codes (EPI/S-X): T01-F05A; T01-J05B4

Database join processing system...

...joins relations based on join fields in relational database

## Original Titles:

...Join processing system and method for joining relations based on join

fields in a relational database .

Alerting Abstract ... Each slave-processor checks a join key of the second data, sales data, with a join key of the first data. Based on the checking result it selects the second data (400a-400d) and outputs the data to the main...

Title Terms/Index Terms/Additional Words: DATABASE;

Original Publication Data by Authority

# Original Abstracts:

- ...and method, which operates efficiently without a burden to a master processor, in a relational **database** on a multiprocessor. In a system which includes a master processor, multiple slave processors and...
- ...sub-table. The master processor merges the second sub-tables, and creates a second main table. Then, a join processing of the first main table and the second main table is performed.

  Claims:
- ...Each slave-processor checks a join key of the second data, sales data, with a join key of the first data. Based on the checking result it selects the second data (400a-400d) and outputs the data to the main...
- ...first join key, the second data including a second join key and produces a joined table, the join processing system comprising: (a) a plurality of recording means for storing the distributed first and... ...with the first join key from the respective recording means and produces a first sub-table including the first join key based on the first data including a predetermined value, and transfers the first subtable...
- ...means receives the second sub-table from the plurality of sub-processor means, produces a **second main table**, **joins** the first and **second data based** on the first and **second main tables**, and produces the **joined** table.

19/69, R/6 (Item 6 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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0005637643 - Drawing available WPI ACC NO: 1991-247345/199134

XRPX Acc No: N1991-188595

Joining selected data in tables of relational data base system - by defining first parameter, selecting data in first table, placing in sub-table, defining second parameter and selecting second data Patent Assignee: IBM CORP (IBMC); INT BUSINESS MACHINES CORP (IBMC) Inventor: CHENG J M; CHENG J M K; HADERLE D J; HARDERLE D J; HEDGES R W;

IYER B R; MOHAN C; WANG Y

Patent Family (3 patents, 5 countries)

Application Patent Update Kind Date Number Kind Date Number 199134 19910821 EP 1991301085 A 19910211 Α EP 442684 199336 E 19930831 US 1990479523 19900213 Α US 5241648 Α 200057 E B2 20001030 JP 199114755 19910114 Α JP 3104708

Priority Applications (no., kind, date): US 1990479523 A 19900213

## Patent Details

Number Kind Lan Pg Dwg Filing Notes

EP 442684 A EN

Regional Designated States, Original: DE FR GB

US 5241648 A EN 13 5

JP 3104708 B2 JA 14 Previously issued patent JP 04213765

## Alerting Abstract EP A

The method for joining selected data in two tables (12,10) in a relational data base system which involves defining a first parameter (35), selecting data in the first table which satisfies the first parameter and placing such selected data in order in a first sub-table (38). A second parameter is defined and data is selected in the second table which satisfies the second parameter.

Selecting data which satisfies the second parameter involves defining a preliminary parameter based on the data in the first sub-table. Data in the second table is selected which satisfies the preliminary parameter and placed in order in a second sub table (45). Data in the second sub table which satisfies the second parameter is selected and combined with the data in the first sub table so as to join the selected data in the first and second tables (50).

ADVANTAGE - Highly efficient I/O operations. @(14pp Dwg.No.5/5)@

# Equivalent Alerting Abstract US A

The machine-executed method for joining two relational database tables involves comparing the rows of the first table with a local predicate and retrieving rows of the first table which satisfy the local predicate and entering the rows into a sort table. The rows of the sort table are ordered by joining column values and retrieving, from the index, identifiers of rows of the second table having join column values satisfying a join predicate and entering the identifiers in a row index (RID) list.

Rows matching the identifiers are retrieved. The rows of the sort table are compared with a local predicate and combined with the rows retrieved to produce composite rows satisfying the local predicate and entering the composite rows in an intermediate result table.

USE/ADVANTAGE - Database management. Safe joining technique. Highly

efficient I/O.

Title Terms/Index Terms/Additional Words: JOIN; SELECT; DATA; TABLE; RELATED; BASE; SYSTEM; DEFINE; FIRST; PARAMETER; PLACE; SUB; SECOND

#### Class Codes

International Classification (Main): G06F-015/40, G06F-017/30

(Additional/Secondary): G06F-012/00

File Segment: EPI; DWPI Class: T01

Manual Codes (EPI/S-X): T01-J05B

Alerting Abstract ... The method for joining selected data in two tables (12,10) in a relational data base system which involves defining a first parameter (35), selecting data in the first table which satisfies the first parameter and placing...

...satisfies the second parameter is selected and combined with the data in the first sub **table** so as to **join** the selected data in the first and second tables (50...

Equivalent Alerting Abstract ... The machine-executed method for joining two relational database tables involves comparing the rows of the first table with a local predicate and retrieving rows of the...

- ...of the sort table are ordered by joining column values and retrieving, from the index, identifiers of rows of the second table having join column values satisfying a join predicate and entering the identifiers in a row index (RID) list...
- ...Rows matching the **identifiers** are retrieved. The rows of the sort table are **compared** with a local predicate and combined with the rows retrieved to produce composite rows satisfying...
- ... USE/ADVANTAGE Database management. Safe joining technique. Highly efficient I/O.

Original Publication Data by Authority

## Original Abstracts:

The invention relates to a method for joining selected data in **first** and **second tables** (12, 10) in a relational **data base** system which comprises defining a **first** parameter (35), selecting data in the first table which satisfies the first parameter and placing...

- ...the second parameter, and combining such selected data with the data in the first sub- table so as to join the selected data in the first and second tables (50). /br The invention also relates to...
- ...ordering on the join column of the first table. First, the index on the inner table 's join column is scanned for rows of the inner table having join column values matching such values of rows in the outer table. This is done in a single pass through the outer table. Next, a temporary work table containing the identifiers of inner table rows having join column values matching those of the outer table is produced by concatenating the row identifiers to their matching outer table rows. Following this, the temporary work table is ordered by the identifiers. Last, the identifier list of inner table rows is used to retrieve the corresponding rows of the inner...

#### Claims:

- 1. A method for joining selected data in **first** and **second tables** (12, 10) in a relational **data base** system comprising /br defining a **first** parameter (35), /br selecting data in said first table which satisfies said first parameter and placing...
- ...said second parameter, and combining such selected data with the data in said first sub- table so as to join the selected data in said first and second tables (50...
- ...A machine-executed method for joining first and second tables of a relational database system, the system including an index on a join column of the second table, the method comprising the relational database system-performed steps of: (a) comparing the rows of the first table with a local predicate; (b) retrieving rows of the...
- ...and entering the rows into a sort table; (c) ordering the rows of the sort table by join column values; (d) retrieving, from the index, identifiers of rows of the second table having join column values satisfying a join predicate and entering the identifiers in a row index (RID) list; (e) retrieving, from the second table, rows matching the identifiers of step (d); and (f) combining the rows of the sort table with the rows...

23/69,K/3 (Item 3 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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0013940645 - Drawing available

WPI ACC NO: 2004-120963/

Related WPI Acc No: 2004-820662

XRPX Acc No: N2004-096831

Optimal query execution plan construction method for database management system, involves determining favorable access plan for each subplan of identified query block

Patent Assignee: SYBASE INC (SYBA-N)

Inventor: NICA A

Patent Family (1 patents, 1 countries)
Patent Application

Number Kind Date Number Kind Date Update
US 20040006561 A1 20040108 US 2002392479 P 20020629 200412 B
US 2003600932 A 20030620

Priority Applications (no., kind, date): US 2002392479 P 20020629; US 2003600932 A 20030620

#### Patent Details

Number Kind Lan Pg Dwg Filing Notes
US 20040006561 A1 EN 34 8 Related to Provisional US 2002392479

## Alerting Abstract US A1

NOVELTY - Each query block is identified within the received query specifying join conditions between database tables. The subplans are created based on grouping portions of query blocks. The favorable access plans are determined for subplans based on estimated execution costs. The optimal access plan is generated for each query block based on favorable access plans for constructing the optimal query execution plan.

DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

1.method for generating bushy trees during optimization of database
query;

- 2.method for optimizing executing of query.
- USE For constructing optimal query execution plan in database management system ( DBMS ) which is version 8.0 of \*\*sybase adaptive server anywhere\*\* (ASA) implemented in international business machine (IBM) compatible personal computer (PC) or server computer, and for use in workgroup, mobile and embedded applications.

ADVANTAGE - Requires minimal memory as only the information about the best access plan are stored.

DESCRIPTION OF DRAWINGS - The figure shows the block diagram of the client/server database system.

- 330 server
- 361 parser
- 363 normalizer
- 365 compiler
- 369 execution unit

Title Terms/Index Terms/Additional Words: OPTIMUM; QUERY; EXECUTE; PLAN; CONSTRUCTION; METHOD; DATABASE; MANAGEMENT; SYSTEM; DETERMINE; FAVOUR; ACCESS; IDENTIFY; BLOCK

Class Codes

International Classification (Main): G06F-017/30

File Segment: EPI; DWPI Class: T01 Manual Codes (EPI/S-X): T01-F05A; T01-J05B3; T01-J05B4P; T01-N02A3C; T01-N03A2; T01-S03

Optimal query execution plan construction method for database management system, involves determining favorable access plan for each subplan of identified query block

Alerting Abstract ...NOVELTY - Each query block is identified within the received query specifying join conditions between database tables. The subplans are created based on grouping portions of query blocks. The favorable access plans are determined for subplans based on estimated execution costs. The optimal access plan is generated for each... ...method for generating bushy trees during optimization of database query; method for optimizing executing of query...

... USE - For constructing optimal query execution plan in **database** management system ( **DBMS** ) which is version 8.0 of b sybase adaptive server anywhere /b (ASA) implemented in international business...

...DESCRIPTION OF DRAWINGS - The figure shows the block diagram of the client/server database system...

Title Terms.../Index Terms/Additional Words: DATABASE ; ...

... DETERMINE ;

Original Publication Data by Authority

## Original Abstracts:

...bushy trees using a left-deep tree join enumeration strategy for optimizing execution of a database query is described. In response to receipt of a query specifying at least one join condition between two or more database tables, each query block comprising an atomic portion of the query is identified and subplans are...

...based on grouping portions of each query block. At least one favorable access plan is **determined** for each subplan of each query block based, at least in part, on estimated execution...

...plan for each query block is generated based upon at least one favorable access plan **determined** for each subplan. A query execution plan is then constructed based upon the optimal access... Claims:

What is claimed is: b 1 /b . In a database system, a method for constructing an optimal query execution plan for executing a query, the method comprising: receiving a query specifying at least one join condition between two or more database tables; identifying each query block within said query, each query block comprising an atomic portion of

...query; creating subplans for each query block based on grouping portions of each query block; determining at least one favorable access plan for each subplan of each query block, said at least one favorable access plan determined based at least in part on estimated execution costs; generating an optimal access plan for each query block based upon said at least one favorable access plan determined for each subplan; and constructing an

optimal query execution plan based upon said optimal access...

23/69,K/4 (Item 4 from file: 350)

DIALOG(R) File 350: Derwent WPIX

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0013658564 - Drawing available

WPI ACC NO: 2003-754746/ XRPX Acc No: N2003-604706

Query processing method in data management system, involves processing query without joining tables if it is determined not to join the

tables

Patent Assignee: ORACLE INT CORP (ORAC-N)

Inventor: GE F; JAKOBSSON H; MOZES A; WITKOWSKI A

Patent Family (1 patents, 1 countries)
Patent Application

Number Kind Date Number Kind Date Update
Update
Update
Update
Update
Update
Update
Update

US 6615206 B1 20030902 US 2001326346 P 20010928 US 2002378841 P 20020507 US 2002186461 A 20020628

Priority Applications (no., kind, date): US 2002378841 P 20020507; US 2001326346 P 20010928; US 2002186461 A 20020628

#### Patent Details

Number Kind Lan Pg Dwg Filing Notes

US 6615206 B1 EN 23 7 Related to Provisional US 2001326346 Related to Provisional US 2002378841

# Alerting Abstract US B1

NOVELTY - The method involves determining whether the tables are to be joined based on columns of the product table and join index in store table for an index key column. The query is processed without joining the tables if it is determined not to join the tables.

DESCRIPTION - An INDEPENDENT CLAIM is also included for computer readable medium storing query processing program.

USE - For processing query in database management system ( DBMS ).

ADVANTAGE - Allows substantial savings in consumption of computational resources, thereby avoiding one or more joins.

DESCRIPTION OF DRAWINGS - The figure shows the flowchart explaining table join avoiding method.

Title Terms/Index Terms/Additional Words: QUERY; PROCESS; METHOD; DATA; MANAGEMENT; SYSTEM; JOIN; TABLE; DETERMINE

## Class Codes

International Classification (Main): G06F-017/30

File Segment: EPI;
DWPI Class: T01

Manual Codes (EPI/S-X): T01-J05B3; T01-J05B4M; T01-S03

...processing method in data management system, involves processing query without joining tables if it is determined not to join the tables

## Original Titles:

Techniques for eliminating database table joins based on a join index

Alerting Abstract ... NOVELTY - The method involves determining whether the tables are to be joined based on columns of the product table and join index in store table for an index key column. The query is processed without joining the tables if it is determined not to join

the tables . ... USE - For processing query in database management system ( DBMS ).

. . .

...DESCRIPTION OF DRAWINGS - The figure shows the flowchart explaining table join avoiding method.

Title Terms.../Index Terms/Additional Words: DETERMINE Original Publication Data by Authority

## Original Abstracts:

Techniques for processing, in a database management system, a query referencing a plurality of tables of a database include determining whether a join should be performed between a first table and a second table. The determination is based on a particular set of one or more columns of the second table...

...the first table for an index key column from the second table. If it is determined that the join should not be performed, the query is processed without performing the join between the first table and the second table. By avoiding one or more joins, substantial savings in the consumption...

#### Claims:

What is claimed is: 1. A method for processing, in a database management system, a query referencing a plurality of tables of a database, the method comprising: determining whether a join should be performed between a first table of the plurality of tables...

...a join index on the first table for an index key column from the second table, wherein a join should be performed if: a particular column in the particular set is not an index...

...a join condition for the query that matches the join index; and if it is determined that the join should not be performed, processing the query without performing the join between the first table and the second table.

(Item 5 from file: 350) 23/69,K/5

DIALOG(R) File 350: Derwent WPIX

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0013647174 - Drawing available WPI ACC NO: 2003-743135/200370

Related WPI Acc No: 2003-438418; 2004-689502; 2005-028639

XRPX Acc No: N2003-595026

Processing method of statement that specifies join between objects of relational database tables in computer system, involves performing multi-level partitioning of database objects using different criteria at various levels

Patent Assignee: ORACLE INT CORP (ORAC-N)

Inventor: DAGEVILLE B; ZAIT M

Patent Family (1 patents, 1 countries) Application Patent

Number Kind Date Update Number Kind Date A 19990927 B1 20030819 US 1999406482 200370 B US 6609131

Priority Applications (no., kind, date): US 1999406482 A 19990927

#### Patent Details

Pg Dwg Number Kind Lan Filing Notes

13 US 6609131 B1 EN

Alerting Abstract US B1

NOVELTY - A database object is divided into partitions based on primary criteria and each of the resulting partitions is divided into sub-partitions based on secondary criteria. The two data sub-sets obtained by partitioning respective database objects, are distributed to corresponding slave process based on secondary criteria. The slave process perform a join between the two data sub-sets.

DESCRIPTION - An INDEPENDENT CLAIM is also included for recorded medium storing program for processing a statement that specifies a join between the two database objects.

USE - For processing statement that specifies join between two objects of relational database tables within computer system using join key.

ADVANTAGE - The overhead associated with performing a parallel data manipulation operation on a partitioned object is reduced, using the partitions of object as the sub-sets of data for distribution to slave process.

DESCRIPTION OF DRAWINGS - The figure shows a block diagram of the computer system.

Title Terms/Index Terms/Additional Words: PROCESS; METHOD; STATEMENT; SPECIFIED; JOIN; OBJECT; RELATED; DATABASE; TABLE; COMPUTER; SYSTEM; PERFORMANCE; MULTI; LEVEL; PARTITION; CRITERIA; VARIOUS

### Class Codes

International Classification (Main): G06F-017/00

File Segment: EPI; DWPI Class: T01

Manual Codes (EPI/S-X): T01-J05B4B; T01-J05B4M; T01-S03

Processing method of statement that specifies join between objects of relational database tables in computer system, involves performing multi-level partitioning of database objects using different criteria at various levels

Alerting Abstract ... NOVELTY - A database object is divided into partitions based on primary criteria and each of the resulting partitions

- ...sub-partitions based on secondary criteria. The two data sub-sets obtained by partitioning respective database objects, are distributed to corresponding slave process based on secondary criteria. The slave process perform...
- ...recorded medium storing program for processing a statement that specifies a join between the two database objects...
- ...USE For processing statement that specifies **join** between **two** objects of relational **database tables** within computer system using **join** key...

Title Terms.../Index Terms/Additional Words: DATABASE;

Original Publication Data by Authority

### Original Abstracts:

- ...In particular techniques are provided for performing multiple-dimension partitioning. In multiple-dimension partitioning, a database object is divided into partitions based on one criteria, and each of those resulting partitions...
- ...of dimensions. Entirely different partitioning techniques may be used for each level of partitioning. The **database** server takes advantage of partitions when processing queries that include joins. In particular, techniques are...
- ...partial parallel partition-wise join. In a partial parallel partition-wise join, one of the join tables is statically partitioned on the join key and another join table is dynamically partitioned in a way that corresponds to the partition criteria of the statically partitioned table. In a full parallel partition-wise join, both of the tables involved in the join have already been statically partitioned based on the same criteria. The join operation is performed... Claims:
- ...said first object, including performing the steps of:inspecting partitioning metadata based on said statement to determine that the second level of static partitioning of said first object, and not said...

23/69,K/6 (Item 6 from file: 350)

DIALOG(R) File 350: Derwent WPIX

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0013441088 - Drawing available

WPI ACC NO: 2003-532179/200350

Related WPI Acc No: 2003-405577

XRPX Acc No: N2003-422309

Tables joining method for database system, involves skipping partial group-by operations in response to data elements in data structure

Patent Assignee: NCR INT INC (NATC); PHAM S (PHAM-I); PHAM T K (PHAM-I);

NCR CORP (NATC)

Inventor: PHAM S; PHAM T K

Patent Family (3 patents, 32 countries)

Application Patent Date Update Kind Number Kind Date Number A 20010928 200350 B US 2001967561 A1 20030424 US 20030078909 A 20020927 US 2002259070 A 20030823 200424 E A2 20040331 EP 2003255226 EP 1403788 200639 E B2 20060613 US 2001967561 A 20010928 US 7062481

US 2002259070 A 20020927

Priority Applications (no., kind, date): US 2001967561 A 20010928; US 2002259070 A 20020927

#### Patent Details

Number Kind Lan Pg Dwg Filing Notes

US 20030078909 A1 EN 27 16 C-I-P of application US 2001967561

EP 1403788 A2 EN

Regional Designated States, Original: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LT LU LV MC MK NL PT RO SE SI SK TR

US 7062481 B2 EN C-I-P of application US 2001967561

C-I-P of patent US 6757677

# Alerting Abstract US A1

NOVELTY - A predefined data structure and tables are stored. The skipping of partial group-by operation, is **determined** in response to data elements in the data structure.

DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

- 1.article comprising computer- readable medium storing tables joining
  program; and
- 2. database system.

USE - For joining tables in **database** system (claimed) using structured query language (SQL).

ADVANTAGE - Enhances efficiency by skipping partial group operations in response to certain predefined conditions. Reduces number of rows of base tables and intermediate spools, by performing partial group-by operations, thereby reducing processing required to perform join query plan.

DESCRIPTION OF DRAWINGS - The figure shows the block diagram of database system.

Title Terms/Index Terms/Additional Words: TABLE; JOIN; METHOD; DATABASE; SYSTEM; SKIP; GROUP; OPERATE; RESPOND; DATA; ELEMENT; STRUCTURE

## Class Codes

International Classification (Main): G06F-017/30, G06F-007/00 International Classification (+ Attributes) IPC + Level Value Position Status Version

# G06F-0017/30 A I F B 20060101

File Segment: EPI; DWPI Class: T01

Manual Codes (EPI/S-X): T01-F05E; T01-J05B4M; T01-S03

Tables joining method for database system, involves skipping partial group-by operations in response to data elements in data structure

Alerting Abstract ...predefined data structure and tables are stored. The skipping of partial group-by operation, is determined in response to data elements in the data structure....article comprising computer- readable medium storing tables joining program; and database system...

... USE - For joining tables in database system (claimed) using structured query language (SQL...

...DESCRIPTION OF DRAWINGS - The figure shows the block diagram of database system.

Title Terms.../Index Terms/Additional Words: DATABASE;

Original Publication Data by Authority

# Original Abstracts:

A database system includes a storage that contains plural tables as well as a predefined data structure. The database system is able to, in response to a join query, perform a join of two or more tables. The database system also is able to determine, based on values contained in the predefined data structure, whether a group-by operation can...

...A database system includes a storage that contains plural tables as well as a predefined data structure. The database system is able to, in response to a join query, perform a join of two or more tables. The database system also is able to determine, based on values contained in the predefined data structure, whether a group-by operation can...

...A database system includes a storage that contains plural tables as well as a predefined data structure. The database system is able to, in response to a join query, perform a join of two or more tables. The database system also is able to determine, based on values contained in the predefined data structure, whether a group-by operation can... Claims:

A method of joining tables, for use in a database system, the method comprising: storing a predefined data structure and plurality of tables; performing a join plan that involves said tables; and including the step of determining if a first group-by operation can be skipped in response to data elements in...

...What is claimed is: b 1 /b . A method for use in a **database** system, comprising: storing a predefined data structure and plural **tables**; performing a **join** plan that involves the plural tables; and **determining** if a first group-by operation can be skipped in response to data elements in...

...What is claimed is:1. A method for use in a database system, comprising: storing a predefined data structure and plural tables; performing a join plan that involves the plural tables; anddetermining if a first group-by operation can...

23/69,K/7 (Item 7 from file: 350)

DIALOG(R) File 350: Derwent WPIX

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0010868937

WPI ACC NO: 2001-488195/200153

XRPX Acc No: N2001-361261

Hybrid hash join process for searching databases, involves joining

data rows from two tables having common column data

Patent Assignee: UNISYS CORP (BURS)

Inventor: BAERENWALD L L; JENDE M S; LIU L H; PLASEK J M; YONEDA K

Patent Family (1 patents, 1 countries)

Patent Application

Number Kind Date Number Kind Date Update
US 6263331 B1 20010717 US 1998135313 A 19980730 200153 B

Priority Applications (no., kind, date): US 1998135313 A 19980730

Patent Details

Number Kind Lan Pg Dwg Filing Notes

US 6263331 B1 EN 23 10

## Alerting Abstract US B1

NOVELTY - A hybrid hash join process joins data rows from two tables that have common data column by partitioning the data rows based on the values in the common data columns. The tables are defined as outer and inner dependent on size.

DESCRIPTION - The smaller outer table's hit rows are partitioned into outer partitions based on common column data. The outer hit row is stored in an outer buffer logically linked to the assigned outer partition. The outer hit rows are joined with inner hit rows from the partitioned inner table, based on column data, so there is a one-to-one correspondence between the outer and inner partitions. The inner hit row is stored in an inner buffer. The outer partition is searched when the inner buffer is full by allocating each outer hit row to a data entry based on the value of the common column of the outer hit row. The data structure is searched for a matching outer hit row for each inner hit row in the full inner buffer. Any matching hit rows are outputted.

INDEPENDENT CLAIMS are made for:

- 1.A computer program for joining data rows from two tables that have common column data.
- 2.A hybrid hash join process for joining data rows from two tables.

USE - Hash joining process searches in relational database systems.

ADVANTAGE - Data structures decrease the data search time for matching rows and recovering from full data buffers by using other buffer space.

Title Terms/Index Terms/Additional Words: HYBRID; HASH; JOIN; PROCESS; SEARCH; DATA; ROW; TWO; TABLE; COMMON; COLUMN

# Class Codes

International Classification (Main): G06F-017/00

File Segment: EPI; DWPI Class: T01

Manual Codes (EPI/S-X): T01-C07C2; T01-F05E; T01-J05B2B; T01-J05B3;

T01-J05B4; T01-J05B4B

Hybrid hash join process for searching databases, involves joining

data rows from two tables having common column data

Alerting Abstract ... USE - Hash joining process searches in relational database systems...

Original Publication Data by Authority

# Original Abstracts:

...as an outer table and a larger one of the two tables as an inner table . The hybrid hash join process determines which rows in the inner and outer tables satisfy a selection criteria; the rows that...

23/69,K/8 (Item 8 from file: 350)

DIALOG(R) File 350: Derwent WPIX

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0009533518 - Drawing available WPI ACC NO: 1999-478288/199940

XRPX Acc No: N1999-356022

Duplicate tuples elimination method in database management system

Patent Assignee: SYBASE INC (SYBA-N)

Inventor: HILLEGAS R

Patent Family (1 patents, 1 countries)
Patent Application

Number Kind Date Number Kind Date Update
US 5937401 A 19990810 US 1996757367 A 19961127 199940 B

Priority Applications (no., kind, date): US 1996757367 A 19961127

Patent Details

Number Kind Lan Pg Dwg Filing Notes

US 5937401 A EN 15 2

Alerting Abstract US A

NOVELTY - The query for generating the tuple stream satisfying the selection criteria is executed, by scanning the selected database tables (250) according to the determined join order. The inner most table is scanned, thereby executing the filter which filters the duplicate tuples from the tuple stream.

DESCRIPTION - A received query specifies the selection criteria for the information of interest from the database system. The determined join order indicates the innermost and outermost tables of the selected join so as to guarantee that the tuples will stream in order during scanning of the query. A filter is initialized at the outermost table for key columns to pass the initial tuple encountered from which an initial key is constructed. On execution the tuples having keys already encountered in the tuple stream are discarded by the filter attached to the innermost table.

USE - For eliminating duplicate tuples in a generated tuple stream in a database management system.

ADVANTAGE - The duplicate tuples are eliminated from the tuple stream without the need for performing an expensive sort operation by the described method.

DESCRIPTION OF DRAWINGS - The figure is a block diagram of a client-server system with the duplicate tuples elimination method.

250 Database tables

Title Terms/Index Terms/Additional Words: DUPLICATE; ELIMINATE; METHOD;

DATABASE ; MANAGEMENT; SYSTEM

Class Codes

International Classification (Main): G06F-017/30

File Segment: EPI; DWPI Class: T01

Manual Codes (EPI/S-X): T01-J05B

Duplicate tuples elimination method in database management system

Original Titles:

Database system with improved methods for filtering duplicates from a tuple stream.

Alerting Abstract ...for generating the tuple stream satisfying the

selection criteria is executed, by scanning the selected database tables (250) according to the determined join order. The inner most table is scanned, thereby executing the filter which filters the...

DESCRIPTION - A received query specifies the selection criteria for the information of interest from the database system. The determined join order indicates the innermost and outermost tables of the selected join so as to guarantee that the tuples will stream in order during scanning of the...

... USE - For eliminating duplicate tuples in a generated tuple stream in a database management system...

...250 Database tables

Title Terms.../Index Terms/Additional Words: DATABASE;

Original Publication Data by Authority

## Original Abstracts:

A Client/Server Database system is described which includes a Database Server providing methods eliminating duplicates from an ordered tuple stream (e.g., resulting from a query involving a database "join"), without the need for performing an expensive sort operation. Specifically, the system provides a...

## Claims:

In a database system storing a plurality of database tables, each database table comprising a plurality of tuples storing columns of information, each column representing a particular...

...method comprising:receiving a query specifying selection criteria for selecting information of interest from the database system, said query specifying that said information of interest is to be selected by a database join operation which joins selected ones of said database tables by one or more columns shared between tables (key columns), said query further specifying that the particular information is to be returned as distinct tuples; determining a join order specifying a sequence indicating how said selected ones of said database tables are to be preferentially scanned by the system for determining which tuples of each said selected ones of said database tables qualify, said join order indicating innermost and outermost tables of the join and being selected so as to guarantee that tuples will stream in order during execution...

...a tuple stream satisfying said selection criteria, said executing step including scanning, according to said **determined** join order, said selected ones of said **database** tables; andas the innermost table is scanned, executing the filter for filtering duplicate tuples...

23/69, K/9 (Item 9 from file: 350)

DIALOG(R) File 350: Derwent WPIX

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0008690861 - Drawing available WPI ACC NO: 1998-230173/199820

XRPX Acc No: N1998-182323

CASE-based relational database access consistency system - includes logical to physical data mapping and join tables with queries formed

using data mapping and join criteria tables
Patent Assignee: INT BUSINESS MACHINES CORP (IBMC)
Inventor: KINGBERG D G; MARTIN W J; MCCUBBIN E M

Patent Family (1 patents, 1 countries)

Patent Application

Number Kind Date Number Kind Date Update
US 5734887 A 19980331 US 1995536737 A 19950929 199820 B

Priority Applications (no., kind, date): US 1995536737 A 19950929

Patent Details

Number Kind Lan Pg Dwg Filing Notes

US 5734887 A EN 50 16

## Alerting Abstract US A

The database access system includes one or more applications having a logical data access interface for requesting data access according to a logical data model. The data model has numerous interrelated logical entity types each with numerous logical attributes. A RDBMS contains numerous physical tables derived from the logical data model, each having numerous columns. A logical to physical data mapping table maps each logical entity type and logical attribute pair to a physical table name and a physical column name as stored in the RDBMS.

A join table has a join entry for each logical entity type represented by more than one physical table in the RDBMS. Each join entry identifies the physical tables and columns to join, and the join criteria necessary to form the logical entity type represented by the join entry. A logical data access module receives a logical database request from a requesting application via it's logical data interface. One or more database queries having physical table and physical column names are formed using the logical to physical data mapping and join criteria tables.

ADVANTAGE - Allows change in physical structure of **database** tables without changing client applications. Allows DBA to tune **database** without changing client applications. Application can update views without knowing physical table names used in constructing view. Permits re-engineering **database** for maximum performance without modifying applications. Provides logical views without knowing join criteria.

Title Terms/Index Terms/Additional Words: CASE; BASED; RELATED; DATABASE; ACCESS; CONSISTENCY; SYSTEM; LOGIC; PHYSICAL; DATA; MAP; JOIN; TABLE; QUERY; FORMING; CRITERIA

## Class Codes

International Classification (Main): G06F-017/30

File Segment: EPI;
DWPI Class: T01

Manual Codes (EPI/S-X): T01-J05B4B; T01-J05B4M

CASE-based relational database access consistency system...

...includes logical to physical data mapping and join tables with gueries formed using data mapping and join criteria tables

## Original Titles:

. . .

. . .

Method and apparatus for logical data access to a physical relational database .

Alerting Abstract ... The database access system includes one or more applications having a logical data access interface for requesting...

...The data model has numerous interrelated logical entity types each with numerous logical attributes. A RDBMS contains numerous physical tables derived from the logical data model, each having numerous columns. A...

...pair to a physical table name and a physical column name as stored in the  $\ensuremath{\mathtt{RDBMS}}$  .

...A join table has a join entry for each logical entity type represented by more than one physical table in the RDBMS. Each join entry identifies the physical tables and columns to join, and the join criteria necessary to form the logical entity type represented by the join entry. A logical data access module receives a logical database request from a requesting application via it's logical data interface. One or more database queries having physical table and physical column names are formed using the logical to physical data mapping and join criteria tables.

...ADVANTAGE - Allows change in physical structure of database tables without changing client applications. Allows DBA to tune database without changing client applications. Application can update views without knowing physical table names used in constructing view. Permits re-engineering database for maximum performance without modifying applications. Provides logical views without knowing join criteria.

Title Terms.../Index Terms/Additional Words: DATABASE;

Original Publication Data by Authority

### Original Abstracts:

Logical Data Access to the physical structure of a relational database is provided for one or more Applications. Applications are developed using the logical entity types...

...then use a Logical Data Access Interface to access each of the required physical relational database tables via the Logical Data Access Layer. Applications then use logical entity type and logical...

...provides a rich set of functions for allowing an Application to control and manage a database, build and execute database queries and interface with physical database. The Logical Data Access Layer determines which of the physical tables and associated columns are required to satisfy the Application request and then builds one or more database query statements containing the appropriate physical table and column names.

Claims:

...entity types with each logical entity type having a plurality of logical attributes; a relational database management system containing a plurality

of physical tables, said physical tables derived from said logical...

...to a physical table name and a physical column name as stored in the relational database management system; a join table having a join entry for each logical entity type represented by more than one physical table in the relational database management system, each join entry identifying the physical tables to join, the physical columns to join, and the join criteria necessary to form the logical entity type represented by the join entry; a logical data access module for receiving a logical database request from a requesting application via the requesting applications's logical data interface, forming one or more database queries having physical table and physical column names using said logical to physical data mapping table and said join criteria table.

23/69,K/10 (Item 10 from file: 350)

DIALOG(R) File 350: Derwent WPIX

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0005871080 - Drawing available

WPI ACC NO: 1992-098495/ XRPX Acc No: N1992-073735

Computer data base and retrieval method - analysing join statements using graphical technique to determine groups of tables represented as nodes

Patent Assignee: IBM CORP (IBMC); INT BUSINESS MACHINES CORP (IBMC)

Inventor: JACOPI T W

Patent Family (5 patents, 4 countries)

Patent			Applicat:	ion		•		
Number	Kind	Date	Number		nd	Date	Update	
EP 476810	Α	19920325	EP 19913	06546	A :	19910718	199213	В
US 5287493	Α	19940215	US 19905	76022	<b>A</b> :	19900831	199407	E
EP 476810	<b>A3</b>	19931020	EP 19913	06546	<b>A</b> :	19910718	199510	E
EP 476810	B1	19981014	EP 19913	06546	<b>A</b> :	19910718	199845	E
DE 69130350	E	19981119	DE 69130	350	<b>A</b> :	19910718	199901	E
			ED 19913	16546	Δ.	19910718		

Priority Applications (no., kind, date): US 1990576022 A 19900831

#### Patent Details0

Number	Kind	Lan	Pg	Dwg	Filing No	otes		
EP 476810	Α	EN	11	7				
Regional Design	gnated	States	,Ori	ginal	: DE FR C	3B		
US 5287493	Α	EN	10	7				
EP 476810	A3	EN						
EP 476810	B1	EN						
Regional Design	gnated	States	,Ori	.ginal	: DE FR C	3B		
DE 69130350	E	DE		•	Applicati	ion	EP 19913	06546
					Based on	OPI	patent	EP 476810

## Alerting Abstract EP A

Data is retrieved using a request including a set of joint statements, each linking the name of two tables. The data processor includes an element to assign priority to one table name in ech joint statement. An array of graph identifiers corresponding to the table names is formed. Each group identifier is initialised to have a value representing the coressponding table name. Each joint statement is processed in succession.

The value of the priority name is substituted in the array of graph identifier values in place of each value representing the other name to derive an indication of the number of groups of linked names in the set of entered join statements.

USE/ADVANTAGE - Assures coherency of join list without need for re-entering all of elements of join list.

#### Equivalent Alerting Abstract US A

An interactive prompted query system is implemented in a database system having a number of named database tables which a user can link together for query purposes by entering join statements. The join statements are analyzed by determining that one or more groups of separately linked database table names are referenced in the join statements. If more than one group exists, then the join statements are adjusted so that only a single group of separately linked database table names is referenced by the join statements.

The single group of names may be **determined** by selecting the group which contains the name first entered by the user, by selecting the group

which contains the highest number of names, by prompting the user to select the group or by any other logical means. More particularly, the join statements are analyzed using a graphical technique to **determine** the groups of tables. The tables are represented as nodes and the join relationships are represented as lines. The lines are traced to **determine** all of the nodes connected to form a single graph. Each graph represents a separately linked group of **database** tables.

ADVANTAGE - Assures list coherency, without re-entering all join list elements.

Title Terms/Index Terms/Additional Words: COMPUTER; DATA; BASE; RETRIEVAL; METHOD; ANALYSE; JOIN; STATEMENT; GRAPHICAL; TECHNIQUE; DETERMINE; GROUP; TABLE; REPRESENT; NODE

#### Class Codes

International Classification (Main): G06F-015/40, G06F-017/30
 (Additional/Secondary): G06F-015/419

File Segment: EPI;
DWPI Class: T01

Manual Codes (EPI/S-X): T01-J05B3

Computer data base and retrieval method...

...analysing join statements using graphical technique to determine groups of tables represented as nodes

### Original Titles:

...Method and system for retrieving data from joined tables in a computer database

...Method and system for retrieving data from joined tables in a computer database

... Database interactive prompted query system having named database tables linked together by a user through join statements

Equivalent Alerting Abstract ... An interactive prompted query system is implemented in a database system having a number of named database tables which a user can link together for query purposes by entering join statements. The join statements are analyzed by determining that one or more groups of separately linked database table names are referenced in the join statements. If more than one group exists, then the join statements are adjusted so that only a single group of separately linked database table names is referenced by the join statements...

... The single group of names may be **determined** by selecting the group which contains the name first entered by the user, by selecting...

...other logical means. More particularly, the join statements are analyzed using a graphical technique to **determine** the groups of tables. The tables are represented as nodes and the join relationships are represented as lines. The lines are traced to **determine** all of the nodes connected to form a single graph. Each graph represents a separately linked group of **database** tables...

Title Terms.../Index Terms/Additional Words: DETERMINE;

Original Publication Data by Authority

### Original Abstracts:

Method and computer database system for implementing an interactive prompted query system in a database system having a plurality of named database tables which a user can link together for query purposes by entering join statements. The join statements are analysed by determining that one or more groups of separately linked database table names are referenced in the join statements. If more than one group exists, then the join statements are adjusted so that only a single group of separately linked database table names is referenced by the join statements. The single group of names may be determined by selecting the group which contains the name first entered by the user, by selecting...

...other logical means. More particularly, the join statements are analysed using a graphical technique to **determine** the groups of tables. The tables are represented as nodes and the join relationships are represented as lines. The lines are traced to **determine** all of the nodes connected to form a single graph. Each graph represents a separately linked group of **database** tables...

...Method and computer database system for implementing an interactive prompted query system in a database system having a plurality of named database tables which a user can link together for query purposes by entering join statements. The join statements are analyzed by determining that one or more groups of separately linked database table names are referenced in the join statements. If more than one group exists, then the join statements are adjusted so that only a single group of separately linked database table names is referenced by the join statements. The single group of names may be determined by selecting the group which contains the name first entered by the user, by selecting...

...other logical means. More particularly, the join statements are analyzed using a graphical technique to **determine** the groups of tables. The tables are represented as nodes and the join relationships are represented as lines. The lines are traced to **determine** all of the nodes connected to form a single graph. Each graph represents a separately linked group of **database** tables.

#### Claims:

- 1. Data processing apparatus having data storage means to store a plurality of data base tables, and a user terminal for retrieving data by entering a data retrieval request including...
- ...the data storage means, characterised in that means are provided to assign priority to one **table** name in each **join** statement, means are provided to form an array of graph identifiers corresponding to the table
- ...1. Data processing apparatus having data storage means to store a plurality of **data base** tables, and a user terminal for retrieving data by entering a data retrieval request including...
- ...the data storage means, characterised in that means are provided to assign priority to one **table** name in each **join** statement, means are provided to form an array of graph identifiers corresponding to the table
- ...A computer-implemented method for analyzing a set of join statements logically joining database table names in a database having a plurality of named database tables, the method comprising the steps of: (a)

creating a join list of joined pairs of the database table names, the joined pairs having been entered by a user and one or more...
...been deleted by the user after having been entered; (b) analyzing the join list to determine groups of separately linked database table names by creating a graph array, elements of the graph array being associated on a one to one basis with the database table names referenced in the set of join statements and each said element in the graph array being initialized with a unique associated graph symbol, the join statements referencing one of the joined pairs of the database table names, the joined pair having a left entry and a right entry, then repeatedly adjusting the graph array so that the right entry of the joined pair of the database table names is associated with the graph symbol associated with the left entry of the...

...and (c) adjusting the join list to contain only a selected group of the linked database table names by deleting all the database table names not in the selected group.

31/69, K/3 (Item 3 from file: 350)

DIALOG(R) File 350: Derwent WPIX

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0014154491 - Drawing available

WPI ACC NO: 2004-339406/ XRPX Acc No: N2004-271330

Structured query language optimization method in personal computer, involves merging leaf nodes of join tree, having merging opportunities, and

calculating combined factors of merged nodes to determine execution order

of nodes

Patent Assignee: TOW D S (TOWD-I)

Inventor: TOW D S

Patent Family (1 patents, 1 countries)
Patent Application

Number Kind Date Number Kind Date Update
US 20040064441 A1 20040401 US 2002256936 A 20020927 200431 B

Priority Applications (no., kind, date): US 2002256936 A 20020927

### Patent Details

Number Kind Lan Pg Dwg Filing Notes US 20040064441 Al EN 17 4

#### Alerting Abstract US A1

NOVELTY - A specific query comprising identified leaf nodes of a join tree is optimized, and the exclusive parents of the leaf nodes are examined. The nodes in which merging opportunities exist, are selectively

merged. The combined factors for the merged nodes are calculated, to determine the order of execution of the nodes.

 ${\tt DESCRIPTION - An \ INDEPENDENT \ CLAIM \ is \ also \ included \ for \ computer \ program$ 

product for performing structured query language optimization method.

USE - For performing optimization of structured query language (SQL) in

ADVANTAGE - Enables improving the efficiency of the computer system, by

optimizing the structured query language using simple process.

 ${\tt DESCRIPTION}$  OF DRAWINGS - The figure shows the flowchart explaining the

structured query language optimization process .

Title Terms/Index Terms/Additional Words: STRUCTURE; QUERY; LANGUAGE; OPTIMUM; METHOD; PERSON; COMPUTER; MERGE; LEAF; NODE; JOIN; TREE; CALCULATE; COMBINATION; FACTOR; DETERMINE; EXECUTE; ORDER

## Class Codes

International Classification (Main): G06F-017/30

(Additional/Secondary): G06F-007/00

File Segment: EPI; DWPI Class: T01

computer system.

Manual Codes (EPI/S-X): T01-E01C; T01-J05B3; T01-S03

...nodes of join tree, having merging opportunities, and calculating combined factors of merged nodes to determine execution order of nodes

Alerting Abstract ...opportunities exist, are selectively merged. The combined factors for the merged nodes are calculated, to determine the

order of execution of the nodes....DESCRIPTION OF DRAWINGS - The figure shows the flowchart explaining the structured **query** language optimization

process .

Title Terms.../Index Terms/Additional Words: DETERMINE;

Original Publication Data by Authority

### Original Abstracts:

...the statement. A data structure is created in computer memory that encodes information about a **database** statement execution plan (e.g., an

SQL statement). The information is arranged in a specific... ...data structure is used in optimizing the SQL statement execution plan so

as to merge **joined tables** to enable efficient optimization. Furthermore

optimized SQL execution plans in accordance with the present invention...

#### Claims:

...claimed is: b 1 /b . A method for selectively optimizing a path to access information from a database system, the method comprising the steps for:examining nodes for merge opportunities; selectively merging nodes

. . .

31/69,K/4 (Item 4 from file: 350)

DIALOG(R) File 350: Derwent WPIX

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0013917907 - Drawing available

WPI ACC NO: 2004-097663/ XRPX Acc No: N2004-077780

Structured query language database management system for Internet business, has integrated circuit that processes industry standard structured query language commands received through open data base connectivity interface

Patent Assignee: MELCHIOR T A (MELC-I); MOHAMMADI-ZAND D L (MOHA-I)

Inventor: MELCHIOR T A; MOHAMMADI-ZAND D L

Patent Family (1 patents, 1 countries)

Patent Application

Number Kind Date Number Kind Date Update US 20030229625 A1 20031211 US 2002163652 A 20020606 200410 B

Priority Applications (no., kind, date): US 2002163652 A 20020606

#### Patent Details

Number Kind Lan Pg Dwg Filing Notes US 20030229625 Al EN 17 9

### Alerting Abstract US A1 .

NOVELTY - The system has a database administrator (14) that receives

application programs through an open data base connectivity interface.

The administrator maintains a checkpoint file (22) and a journal file (24).

A structured **query** language (SQL) **processing** integrated circuit (IC)

(44A, 44B) processes industry standard SQL commands. A content addressable

memory (46A, 46B) stores the processed commands.

 $\ensuremath{\mathtt{USE}}$  -  $\ensuremath{\mathtt{Used}}$  for managing structured query language  $\ensuremath{\mathtt{database}}$  for Internet

ADVANTAGE - The integrated circuit processes the industry standard structured query language commands, thereby increasing the memory bandwidth. The integrated circuit distributes the data load across the buses, thereby increasing the memory densities while decreasing the cost.

DESCRIPTION OF DRAWINGS - The drawing shows a data flow diagram of an integrated circuit based structured query language database management system.

- 14 Database administrator
- 22 Check point file
- 24 Journal file
- 44A, 44B Integrated circuit
- 46A, 46B Memory

Title Terms/Index Terms/Additional Words: STRUCTURE; QUERY; LANGUAGE; DATABASE; MANAGEMENT; SYSTEM; BUSINESS; INTEGRATE; CIRCUIT; PROCESS;

INDUSTRIAL; STANDARD; COMMAND; RECEIVE; THROUGH; OPEN; DATA; BASE; CONNECT; INTERFACE

## Class Codes

International Classification (Main): G06F-007/00

File Segment: EPI; DWPI Class: T01

Manual Codes (EPI/S-X): T01-J05B4; T01-N01A2

Structured query language database management system for Internet business, has integrated circuit that processes industry standard structured query language commands received through open data base connectivity interface

## Original Titles:

Structured **query** language **processing** integrated circuit and distributed

database processor

Alerting Abstract ... NOVELTY - The system has a database administrator

(14) that receives application programs through an open **data base** connectivity interface. The administrator maintains a checkpoint file (22)

and a journal file (24). A structured query language (SQL) processing

integrated circuit (IC) (44A, 44B) processes industry standard SQL commands. A content addressable memory (46A... USE - Used for managing structured query language database for Internet business...

- ... The drawing shows a data flow diagram of an integrated circuit based structured query language database management system...
- ...14 Database administrator...
- ...22 Check point file...

Title Terms.../Index Terms/Additional Words: DATABASE;

Original Publication Data by Authority

#### Original Abstracts:

A distributed SQL database management system includes an SQL-processing integrated circuit capable of processing industry standard SQL commands...

...at a high abstraction level. The use of the SQL integrated circuit and distributed SQL database management system significantly increases memory bandwidth. The SQL integrated circuit performs the following SQL functions:

table joins, view support, learning mode extension, proximity match extension, longest prefix match extension, SQL DML support... Claims:

Having thus described the invention, what is claimed is: b 1 /b . A distributed SQL database management system comprising at least one dedicated SQL-processing integrated circuit.

31/69,K/5 (Item 5 from file: 350)

DIALOG(R) File 350: Derwent WPIX

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0013730966 - Drawing available

WPI ACC NO: 2003-828994/ XRPX Acc No: N2003-662293

Structured query language query optimization method for database management system, involves changing WHERE clause of query by mapping query

condition to join index and adding join back condition to base table

Patent Assignee: NCR CORP (NATC)

Number Kind Date Number Kind Date Update US 6643636 B1 20031104 US 2001874804 A 20010605 200377 B

Priority Applications (no., kind, date): US 2001874804 A 20010605

## Patent Details

Number Kind Lan Pg Dwg Filing Notes US 6643636 Bl EN 9 4

# Alerting Abstract US B1

NOVELTY - A join index is added to the FROM clause of the query, if a non-covering join index is not covering the query. The WHERE clause of the

query is changed by mapping query condition to join index for its partially

covered base tables and adding a join back condition of the join index

to the base table from which the join index is formed.

DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

- 1. database system; and
- 2.structured query language query optimizing program.

USE - For optimizing structured query language (SQL) query in database

management system ( DBMS ).

ADVANTAGE - The SQL query is optimized effectively by changing the WHERE  $\dot{}$ 

clause of the query.

DESCRIPTION OF DRAWINGS - The figure shows the block diagram of the database system and the flowchart explaining query optimizing process.

Title Terms/Index Terms/Additional Words: STRUCTURE; QUERY; LANGUAGE; OPTIMUM; METHOD; DATABASE; MANAGEMENT; SYSTEM; CHANGE; MAP; CONDITION;

JOIN; INDEX; ADD; BACK; BASE; TABLE

### Class Codes

International Classification (Main): G06F-017/30

File Segment: EPI; DWPI Class: T01

Manual Codes (EPI/S-X): T01-J05B3; T01-J05B4M; T01-S03

Structured query language query optimization method for database management system, involves changing WHERE clause of query by mapping query condition to join index...

Alerting Abstract ...query is changed by mapping query condition to join

index for its partially covered base **tables** and adding a **join** back condition of the join index to the base **table** from which the **join** index

is formed.... database system; and structured query language query optimizing program...

 $\dots$ USE - For optimizing structured query language (SQL) query in database

management system ( DBMS ).

...DESCRIPTION OF DRAWINGS - The figure shows the block diagram of the database system and the flowchart explaining query optimizing process .

Title Terms.../Index Terms/Additional Words: DATABASE;

Original Publication Data by Authority

## Original Abstracts:

. . .

A method, database system and computer program are disclosed for optimizing a SQL query, in which the SQL query includes a WHERE clause and

a FROM clause. An evaluation is done to **determine** whether a non-covering

join index partially but not completely covers the query. If it...

 $\dots$ tables; and (2) adding a join back condition from the join index to a

base table from which the join index was formed. Claims:

...tables; and (2) adding a join back condition from the join index to a base table from which the join index was formed.

31/69,K/6 (Item 6 from file: 350)

DIALOG(R) File 350: Derwent WPIX

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0013650248 - Drawing available WPI ACC NO: 2003-746273/200370

XRPX Acc No: N2003-597955

Join sequence determining method for relational databases, involves determining join sequence to join tables from query using generated

sequence to create access path in processing query

Patent Assignee: INT BUSINESS MACHINES CORP (IBMC)

Inventor: SINNOTT J F

Patent Family (2 patents, 1 countries)

Patent Application

Number Kind Date Number Kind Date Update US 20030167272 A1 20030904 US 200290275 A 20020304 200370 B US 7085754 B2 20060801 200650 E

Priority Applications (no., kind, date): US 200290275 A 20020304

### Patent Details

Number Kind Lan Pg Dwg Filing Notes US 20030167272 Al EN 8 3

## Alerting Abstract US A1

NOVELTY - The method involves **determining** a **join** sequence to **join** 

tables from a query in a primary pass by creating a set of mini-plans simulating all possible joins of a predetermined subset of the query tables

and using cost model calculations. The **determined** join sequence is then

used in a secondary pass to create an access path for  $\ensuremath{\text{processing}}$  the  $\ensuremath{\text{query}}$  .

DESCRIPTION - An INDEPENDENT CLAIM is also included for a computer based

processor system for  $\ensuremath{\operatorname{\textbf{determining}}}$  optimum join sequence for  $\ensuremath{\operatorname{\textbf{processing}}}$  a

## query .

USE - Used for processing a multi-table structured query language
(SQL)

query in a relational database stored in electronic devices.

ADVANTAGE - The **determination** of the detailed access path in secondary

pass by using the optimum join sequence **determined** in the primary pass

eliminates the expensive EXPLAIN tables and avoids storage usage expense problem.

DESCRIPTION OF DRAWINGS - The drawing shows a computer hardware and software environment that enables a two-pass dynamic programming algorithm

in join sequence determining method.

104 Processor

105 Operating memory

- 106 Electronic storage devices
- 108 Computer system terminal
- 112 Relation database

Title Terms/Index Terms/Additional Words: JOIN; SEQUENCE; DETERMINE; METHOD; RELATED; TABLE; QUERY; GENERATE; ACCESS; PATH; PROCESS

#### Class Codes

International Classification (+ Attributes)
IPC + Level Value Position Status Version
 G06F-0017/30 A I F B 20060101
 G06F-0007/00 A I R 20060101
 G06F-0007/00 C I R 20060101

File Segment: EPI; DWPI Class: T01

Manual Codes (EPI/S-X): T01-J05B3; T01-J05B4B

Join sequence determining method for relational databases, involves determining join sequence to join tables from query using generated sequence to create access path in processing query

#### Original Titles:

System and a two-pass algorithm for **determining** the optimum access path

for multi-table SQL queries

Alerting Abstract ...NOVELTY - The method involves determining a join sequence to join tables from a query in a primary pass by creating a set of mini-plans simulating...

...joins of a predetermined subset of the query tables and using cost model calculations. The **determined** join sequence is then used in a secondary pass to create an access path for **processing** the **query**. DESCRIPTION

An INDEPENDENT CLAIM is also included for a computer based processor system

for determining optimum join sequence for processing a query .

...USE - Used for processing a multi-table structured query language (SQL) query in a relational database stored in electronic devices...

...ADVANTAGE - The determination of the detailed access path in secondary pass by using the optimum join sequence determined in the primary pass eliminates the expensive EXPLAIN tables and avoids storage usage expense problem...

...hardware and software environment that enables a two-pass dynamic programming algorithm in join sequence determining method...

...112 Relation database

Title Terms.../Index Terms/Additional Words: DETERMINE;

Original Publication Data by Authority

## Original Abstracts:

An apparatus, article of manufacture and computer-based method is provided

for determining the optimum join sequence for processing a query having a plurality of tables from a relational database stored in an electronic storage device having a database management system. The method

is performed in two passes. The first pass is used for **determining** an optimum join sequence for joining the plurality of tables from the query.

The second pass uses the optimum join sequence for creating a lowest cost

access path plan for **processing** the **query**. The first pass performs successive steps until creation of a simulated composite table having all

## ... Claims:

What is claimed is: b 1 /b . A computer-based method for determining

the optimum join sequence for **processing** a **query** having a plurality of

tables from a relational database stored in an electronic storage device

having a database management system, the method comprising the steps of:

(a) a first pass for  $\ensuremath{\operatorname{\textbf{determining}}}$  an optimum join sequence for joining the

plurality of tables from the query; and (b...

...for using the optimum join sequence for creating a lowest cost access path plan for processing the query.

31/69,K/7 (Item 7 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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0013431814 - Drawing available

WPI ACC NO: 2003-522669/ XRPX Acc No: N2003-414759

Internet based data record search method in database, involves constructing query corresponding to given search criteria and executing it

on identified regions of database

Patent Assignee: MICROSOFT CORP (MICT)

Inventor: AGRAWAL S; CHAUDHURI S

Patent Family (2 patents, 1 countries)

Patent Application

Update Number Kind Date Kind Date Number 200349 A 20011019 В US 200136348 20030424 US 20030078915 A1 A 20011019 200460 20040914 US 200136348 B2 US 6792414

Priority Applications (no., kind, date): US 200136348 A 20011019

Patent Details

Number Kind Lan Pg Dwg Filing Notes US 20030078915 Al EN 26 24

Alerting Abstract US A1

NOVELTY - An inverter list of keywords that maps the data record components to a region of database containing corresponding data

is created. The regions of database containing data records relating

the given search keyword, are identified by accessing the inverted list. A

query is constructed corresponding to the given search criteria and is executed on the identified regions of database .

DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

1.computer readable medium storing instructions to perform data record

search process; and

2. data records search apparatus.

USE - For searching data records in database comprising address information of employee, mailing list information, product and sales details.

ADVANTAGE - The records matching the search criteria are efficiently retrieved by executing the query on the identified regions. The keyword searching on relational database is made efficient.

DESCRIPTION OF DRAWINGS - The figure shows the flowchart of data record

search process .

Title Terms/Index Terms/Additional Words: BASED; DATA; RECORD; SEARCH;
 METHOD; DATABASE ; CONSTRUCTION; QUERY; CORRESPOND; CRITERIA;
 EXECUTE;

IDENTIFY; REGION

#### Class Codes

International Classification (Main): G06F-017/30, G06F-007/00

File Segment: EPI; DWPI Class: T01

Manual Codes (EPI/S-X): T01-J05B3; T01-J05B4P; T01-N03A2; T01-S03

Internet based data record search method in database , involves constructing query corresponding to given search criteria and executing it

on identified regions of database

## Original Titles:

Generalized keyword matching for keyword based searching over relational

databases

. . .

 $\ldots$  Generalized keyword matching for keyword based searching over relational

databases

Alerting Abstract ... An inverter list of keywords that maps the data record components to a region of database containing corresponding data

record, is created. The regions of database containing data records relating to the given search keyword, are identified by accessing the inverted...

 $\dots$ constructed corresponding to the given search criteria and is executed

on the identified regions of  $\mbox{database}$  . . . . computer readable medium storing instructions to perform  $\mbox{data}$  record search  $\mbox{process}$ ; and  $\mbox{data}$ 

records search apparatus...

... USE - For searching data records in database comprising address information of employee, mailing list information, product and sales details...

...efficiently retrieved by executing the query on the identified regions.

The keyword searching on relational database is made efficient...

 $\dots$  DESCRIPTION OF DRAWINGS - The figure shows the flowchart of  $\mbox{ data }$  record search  $\mbox{ process }.$ 

Title Terms.../Index Terms/Additional Words: DATABASE; Original Publication Data by Authority

## Original Abstracts:

Searching by keywords and providing generalized matching capabilities on a relational database is enabled by performing preprocessing operations

to construct inverted list lookup tables based on data...

...of the keyword. A keyword search is performed on the lookup tables rather than the database tables to determine database column locations of the keyword. The lookup tables is scanned to identify each prefix associated with the search term. Schema information about the database is used to link the column locations to form database subgraphs tables are to generated based on the that span the keywords. Join subgraphs consisting of columns containing the keywords. A query on the database is generated to join the tables and retrieve database rows that contain the keyword and the prefixes associated with the keyword. retrieved rows are ranked in order of relevance before being output. By preprocessing a relational database to form lookup tables, and initially searching the lookup tables to obtain a targeted subset of the database upon which SQL queries can be performed to collect data records, keyword searching on relational database is made efficient... ... Searching by keywords and providing generalized matching capabilities on a relational database is enabled by performing preprocessing

...of the keyword. A keyword search is performed on the lookup tables rather than the database tables to determine database column locations of the keyword. The lookup tables is scanned to identify each prefix associated with the search term. Schema information about the database is used to link the column locations to form database subgraphs

to construct inverted list lookup tables based on data...

that span the keywords. **Join tables** are to generated based on the subgraphs consisting of columns containing the keywords. A query on the **database** is generated to **join** the **tables** and retrieve **database** 

that contain the keyword and the prefixes associated with the keyword.

retrieved rows are ranked in order of relevance before being output. By preprocessing a relational database to form lookup tables, and initially

searching the lookup tables to obtain a targeted subset of the database

upon which SQL queries can be performed to collect data records, keyword

searching on relational database is made efficient.

### Claims:

operations

We claim: b 1 /b . A method for searching a database for data records

relating to given search keywords in a search criteria comprising the steps  $\frac{1}{2} \left( \frac{1}{2} \right) = \frac{1}{2} \left( \frac{1}{2} \right) \left($ 

...inverted list of keywords that maps each data record component to a region of the database in which the data record corresponding to the

component is found; identifying regions of the **database** that contain data

records relating to the given search keyword by accessing the inverted list

. . .

...to the given search criteria; and executing the query on the identified regions of the database to retrieve records matching the search criteria

. . .

- ...We claim: 1. A method for searching a **database** for data records relating to given search keywords in a search criteria comprising: generating a...
- ...inverted list of keywords that maps each data record component to a region of the **database** in which the data record corresponding to the component is found; identifying regions of the **database** that contain data

records relating to the given search keyword by accessing the inverted list

. . .

...to the given search criteria; and executing the query on the identified regions of the database to retrieve records matching the search criteria.

0013295425 - Drawing available

WPI ACC NO: 2003-382211/200336

DIALOG(R) File 350: Derwent WPIX

XRPX Acc No: N2003-305334 Apparatus for relational database processing determines multi-part concatenated table look-up fields

Patent Assignee: BEA SYSTEMS INC (BEAS-N); BELLEW M A (BELL-I)

(Item 8 from file: 350)

(c) 2006 The Thomson Corporation. All rts. reserv.

Inventor: BELLEW M A

31/69,K/8

98 countries) Patent Family (8 patents, Application Patent Update Kind Date Date Number Kind Number A 20021022 200336 WO 2002US33859 20030501 WO 2003036519 A1 200347 Ε A 20020110 US 200243949 20030710 US 20030131215 A1 Ε 200406 A 20011025 US 200138412 20040115 Al US 20040.010507 A 20021022 200460 AU 2002337948 20030506 Α1 AU 2002337948 A 20021022 200518 WO 2002US33859 20050310 W JP 2005507121 JP 2003538938 Α 20021022 200606 Ε 20011025 US 200138412 Α 20060117 B2 US 6988094 A 20011025 200618 US 200138412 20060309 Α1 US 20060053089 A 20051018 US 2005252939 200646 E A 20011025 US 200138412 20060711 B2 US 7076482 20020110 US 200243949 Α

Priority Applications (no., kind, date): US 2005252939 A 20051018; US A 20011025; US 200243949 A 20020110 200138412

## Patent Details

Filing Notes Dwg Kind Lan Ρg Number .

EN 29 WO 2003036519 A1

National Designated States, Original: AE AG AL AM AT AU AZ BA BB BG BR BY

BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU

IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ

NO NZ OM PH PL PT RO RU SD SE SG SI SK SL TJ TM TN TR TT TZ UA UG UZ VN

YU ZA ZM ZW

Regional Designated States, Original: AT BE BG CH CY CZ DE DK EA EE ES

FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SK SL SZ TR TZ UG

52

JA

ZM ZW A1 EN AU 2002337948 JP 2005507121

WO 2003036519 Based on OPI patent PCT Application WO 2002US33859 WO 2003036519 Based on OPI patent

US 20060053089 Α1 EN 200138412

Continuation of application US

B2 ΕN US 7076482

Continuation of patent US 6988094 C-I-P of application US 200138412 C-I-P of patent US 6988094

```
determining whether the field is a looked-up field, identifying the
basis
table, identifying target tables and generating an SQL statement
(Select,
Insert, Update, Delete) plus fields selected from a basis table and
From
clause. If the statement contains fields to be looked up, Outer or
Inner
Join and On clauses are included for the target table rows, the
conditions
being look-up fields.
  USE - Apparatus is for relational database tables.
  ADVANTAGE - Apparatus requires less processing skill.
  DESCRIPTION OF DRAWINGS - The figure shows operation of an SQL
generator.
Title Terms/Index Terms/Additional Words: APPARATUS; RELATED; DATABASE
  PROCESS; DETERMINE; MULTI; PART; CONCATENATED; TABLE; UP; FIELD
Class Codes
International Classification (Main): G06F-012/00
 (Additional/Secondary): G06F-017/30
International Classification (+ Attributes)
IPC + Level Value Position Status Version
  G06F-0017/00 A I L B 20060101
  G06F-0017/30 A I F B
                            20060101
  G06F-0007/00 A I L B 20060101
  G06F-0017/00 A I F B 20060101
                        R 20060101
  G06F-0017/30 A I
  G06F-0017/30 C I
                        R 20060101
File Segment: EPI;
DWPI Class: T01
Manual Codes (EPI/S-X): T01-J05B3; T01-J05B4B
Apparatus for relational database processing determines multi-part
concatenated table look-up fields
Original Titles:
MULTI-PART LOOKED-UP TABLE FIELDS AND ITS USE IN DATA
                                                        PROCESSING
OPERATIONS INVOLVING MULTIPLE TABLES OF A RELATIONAL DATABASE
...Multi-part looked-up table fields and its use in data
                                                           processing
operations involving multiple tables of a relational database
. . .
...Multi-part looked-up table fields and its use to in data
processing
operations involving multiple tables of a relational database
```

...Multi-part looked-up table fields and its use in data processing

NOVELTY - Apparatus has a program store for parsing the data processing statement, identifying the referenced table field or

operations involving multiple tables of a relational  $% \left( \mathbf{A}\right) =\left( \mathbf{A}\right)$  database ...

...Multi-part looked-up table field and its use to in data processing

operations involving multiple tables of a relational database ...

- ...Multi-part looked-up table fields and its use in **data processing** operations involving multiple tables of a relational **database** ...
- ...MULTI-PART LOOKED-UP TABLE FIELDS AND ITS USE IN **DATA PROCESSING**OPERATIONS INVOLVING MULTIPLE TABLES OF A RELATIONAL **DATABASE**

 $\begin{tabular}{lll} \textbf{Alerting Abstract} & \dots \textbf{NOVELTY - Apparatus has a program store for parsing} \\ \end{tabular}$ 

the data processing statement, identifying the referenced table field

or fields, determining whether the field is a looked-up field, identifying the basis table, identifying target tables...

USE - Apparatus is for relational database tables...

Title Terms.../Index Terms/Additional Words: DATABASE ; ...

... DETERMINE ;

Original Publication Data by Authority

## Original Abstracts:

 $\ldots$ and table fields having aggregate functions to be performed in their row

values in a data processing statement, and automatic inclusion with a

SQL statement a subquery to generate a grouped derivative...

...a software component is equipped to automatically expand table fields

available for inclusion in a data processing operation to include table

fields of a target table of a look-up table field...

...first aspect, a software component is equipped to identify looked-up table fields in a **data processing** statement, and automatically includes

with a SQL statement one or more appropriate JOIN clauses joining...

 $\dots$ a software component is equipped to automatically expand table fields

available for inclusion in a **data processing** operation to include table

fields of a target table of a look-up table field...

...first aspect, a software component is equipped to identify looked-up table fields in a **data processing** statement, and automatically includes

with a SQL statement one or more appropriate JOIN clauses joining...

...a software component is equipped to automatically expand table fields available for inclusion in a data processing operation to include table fields of a target table of a look-up table field...

...first aspect, a software component is equipped to identify looked-up table fields in a data processing statement, and automatically includes with a SQL statement one or more appropriate JOIN clauses joining...

...a software component is equipped to automatically expand table fields available for inclusion in a data processing operation to include table fields of a target table of a look-up table field...

...and table fields having aggregate functions to be performed in their row processing statement, and automatic inclusion with values in a data SQL statement a subquery to generate a grouped derivative... ...a software component is equipped to automatically expand table fields available for inclusion in a data processing operation to include fields of a target table of a look-up table field... Claims: What is claimed is: b 1 /b . A method comprising:parsing a data processing statement; identifying table field or fields referenced in said processing statement, including whether an aggregation data operation is to be performed on row values of each of the identified table

looked-up field; identifying a basis table of which...

...clauses joining the corresponding one or more target tables to the grouped derivative table, if the data processing statement is determined to contain first one or more table fields to have aggregation operations performed on...

each identified table field, determining whether the table field is a

fields; for

...What is claimed is: b 1 /b . A method comprising:parsing a data processing statement; identifying table field or fields referenced in said

data processing statement; for each identified table field ,
determining
whether the table field is a looked-up field; identifying a basis table
of
...

...selected from said basis table and a FROM clause enumerating said basis

table, and if the data processing statement was determined to contain one or more fields to be looked up from one or more...
...looked up from said one or more target tables, and one or more JOIN clauses respectively joining said basis table and said one or more target tables, and one or more corresponding ON clauses...

...or more corresponding conditions on which rows of said basis and said one or more target tables are to be joined, each of said one or more conditions comprising a corresponding look-up field...

...What is claimed is:1. A method comprising:parsing a data processing statement;identifying table field or fields referenced in said data processing statement; for each identified table field, determining whether the table field is a looked-up field; identifying a basis table of...

...selected from said basis table and a FROM clause enumerating said basis table, and if the data processing statement was determined to contain one or more fields to be looked up from one or more...

...looked up from said one or more target tables, and one or more JOIN clauses **respectively** joining said **basis** table and said one or more target tables, and one or more corresponding ON clauses...

...or more corresponding conditions on which rows of said basis and said one or more target tables are to be joined, each of said one or more conditions comprising a corresponding look-up field...

...What is claimed is:1. A method comprising: parsing on a computing system

a data processing statement; identifying table field or fields referenced in said data processing statement, including whether an aggregation operation is to be performed on row values of each of the identified table fields; for each identified table field, determining whether the table field is a looked-up field; identifying a basis table of ...

...JOIN clauses joining the corresponding one or more target tables to the grouped derivative table, if the data processing statement is determined to contain first one or more table fields to have aggregation operations performed...

31/69,K/9 (Item 9 from file: 350)

DIALOG(R) File 350: Derwent WPIX

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0013242378 - Drawing available

WPI ACC NO: 2003-327525/200331

XRPX Acc No: N2003-261812

Query processing method for database management system, involves rewriting query that does not reference particular materialized view, only

when particular materialized view satisfies predetermined conditions

Patent Assignee: ORACLE CORP (ORAC-N)

Inventor: BELLO R; FINNERTY J; WITKOWSKI A; ZIAUDDIN M

Patent Family (1 patents, 1 countries)

Patent · Application

Number Kind Date Number Kind Date Update
US 6496819 B1 20021217 US 1998221641 A 19981228 200331 B

Priority Applications (no., kind, date): US 1998221641 A 19981228

#### Patent Details

Number Kind Lan Pg Dwg Filing Notes

US 6496819 B1 EN 35 9

## Alerting Abstract US B1

NOVELTY - A query that does not reference a particular materialized view

and requires access to values from a particular column not contained in the

materialized view, is received. The query is rewritten only when the particular materialized view satisfies predetermined conditions, to produce

a rewritten query that references the materialized view, and joins the view

back to a **join** -back **table** that contains the particular column.

DESCRIPTION - An INDEPENDENT CLAIM is included for computer readable medium storing **query processing** program.

USE - For **processing queries** in **database** management system ( **DBMS** 

ADVANTAGE - Since only the materialized views satisfying predetermined

conditions are used for  $\ensuremath{\text{processing}}$  the  $\ensuremath{\text{queries}}$  ,  $\ensuremath{\text{query}}$  execution speed

is improved and size of the database containing the materialized views is

reduced. Hence, overhead associated with maintaining the materialized views

that are not necessary is eliminated.

DESCRIPTION OF DRAWINGS - The figure shows a flowchart illustrating the

query execution process .

Title Terms/Index Terms/Additional Words: QUERY; PROCESS; METHOD; DATABASE

; MANAGEMENT; SYSTEM; REWRITING; REFERENCE; VIEW; SATISFY;

## PREDETERMINED; CONDITION

### Class Codes

International Classification (Main): G06F-017/00

File Segment: EPI; DWPI Class: T01

Manual Codes (EPI/S-X): T01-J05B3; T01-J05B4M; T01-S03

Query processing method for database management system, involves rewriting query that does not reference particular materialized view, only when particular...

Alerting Abstract ...a rewritten query that references the materialized view, and joins the view back to a join -back table that contains the particular column.DESCRIPTION - An INDEPENDENT CLAIM is included for computer readable medium storing query processing program...

... USE - For  ${f processing}$   ${f queries}$  in  ${f database}$  management system ( DRMS ).

• • •

...ADVANTAGE - Since only the materialized views satisfying predetermined conditions are used for **processing** the **queries**, **query** execution speed is improved and size of the **database** containing the materialized views is reduced. Hence, overhead associated with maintaining the materialized views that...

...DESCRIPTION OF DRAWINGS - The figure shows a flowchart illustrating the  ${\tt query}\$  execution  ${\tt process}\ .$ 

Title Terms.../Index Terms/Additional Words: DATABASE;

Original Publication Data by Authority

#### Original Abstracts:

A method and system is provided for **processing queries**. Specifically, techniques are provided for handling a query that does not reference a particular materialized...

...a particular column not contained in the materialized view. A technique is also provided for **processing** a **query** that does not reference a particular materialized aggregate view, where the materialized aggregate

view specifies an outer **join** between a child **table** and a parent table and the query specifies a particular type of **join** between the child **table** and the parent table, where the particular type of join is one of an inner...

...aggregate view to produce data required by the query. A technique is also provided for **processing** a **query** that does not reference a particular materialized view and that specifies that results are to... Claims:

What is claimed is:1. A method for **processing queries**, the method comprising the steps of:receiving a query that does not reference a particular...

...query requiring access to values from a particular column not contained in said materialized view; determining whether the particular materialized view satisfies each condition in a set of conditions, the set...

...a rewritten query that references said materialized view and joins said materialized view back to  ${\tt a}$  join-  ${\tt back}$  table that contains said particular column.

31/69,K/10 (Item 10 from file: 350)

DIALOG(R) File 350: Derwent WPIX

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0013173032 - Drawing available

WPI ACC NO: 2003-256161/200325

XRPX Acc No: N2003-203306

Query optimizing and processing method in database management system.

involves selecting query execution plan based on plan execution cost vector

## quantity

Patent Assignee: INT BUSINESS MACHINES CORP (IBMC)
Inventor: BESTGEN R J; BOGER C N; DIETEL J D; EGAN R L

Patent Family (2 patents, 1 countries)

Patent Application

 Number
 Kind
 Date
 Number
 Kind
 Date
 Update

 US 20030018618
 A1 20030123
 US 2001810973
 A 20010315
 200325
 B

 US 7007009
 B2 20060228
 US 2001810973
 A 20010315
 200616
 E

Priority Applications (no., kind, date): US 2001810973 A 20010315

### Patent Details

Number Kind Lan Pg Dwg Filing Notes US 20030018618 A1 EN 15 3

### Alerting Abstract US A1

NOVELTY - The cost for an execution plan for a query is calculated as

vector quantity and **determined** whether the plan should be selected for

execution based on the cost vector quantity.

DESCRIPTION - An INDEPENDENT CLAIM is included for recorded medium storing query optimizing and processing program.

USE - In computer database management system.

 ${\tt ADVANTAGE}$  -  ${\tt Improves}$  the effectiveness and efficiency of selecting an execution plan.

DESCRIPTION OF DRAWINGS - The figure shows a flowchart explaining the query execution plan generation and execution method.

Title Terms/Index Terms/Additional Words: QUERY; OPTIMUM; PROCESS;
METHOD;

DATABASE; MANAGEMENT; SYSTEM; SELECT; EXECUTE; PLAN; BASED; COST; VECTOR

; QUANTITY

## Class Codes

International Classification (Main): G06F-017/30
International Classification (+ Attributes)
IPC + Level Value Position Status Version
 G06F-0017/30 A I F B 20060101

File Segment: EPI; DWPI Class: T01

Manual Codes (EPI/S-X): T01-J05B3; T01-J05B4M

Query optimizing and processing method in database management system, involves selecting query execution plan based on plan execution cost vector quantity

Alerting Abstract ...cost for an execution plan for a query is as a vector quantity and determined whether the plan should be selected for execution based on the cost vector quantity.DESCRIPTION - An INDEPENDENT CLAIM is included for recorded medium storing query optimizing and processing program...

... USE - In computer database management system...

Title Terms.../Index Terms/Additional Words: DATABASE;

Original Publication Data by Authority

# Original Abstracts:

...number of records returned from part or all of a query, estimated record fanout when joining one file to another, etc...

...number of records returned from part or all of a query, estimated record fanout when joining one file to another, etc.

#### Claims:

What is claimed is: b 1 /b . A method of optimizing and processing a query in a database management system in order to retrieve data from computer storage, the method comprising:receiving a...

...What is claimed is:1. A method of optimizing and processing a in a database management system in order to retrieve data from computer storage, the method comprising:receiving...

31/69,K/11 (Item 11 from file: 350)

DIALOG(R) File 350: Derwent WPIX

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0012823205 - Drawing available

WPI ACC NO: 2002-680895/ XRPX Acc No: N2002-537386

Lowest cost permutation determining method for data processor, involves determining whether the final composite is used for calculating

cost of building based on which lowest value of building is saved

Patent Assignee: INT BUSINESS MACHINES CORP (IBMC)

Inventor: SINNOTT J

Patent Family (1 patents, 1 countries)

Patent Application

Number Kind Date Number Kind Date Update
US 6421657 B1 20020716 US 1999332586 A 19990614 200273 B

Priority Applications (no., kind, date): US 1999332586 A 19990614

### Patent Details

Number Kind Lan Pg Dwg Filing Notes

US 6421657 B1 EN 9 4

## Alerting Abstract US B1

NOVELTY - The cost of building using initial set of composites are determined . The cost of building for next successive larger set of composites whose value does not exceed the threshold value are calculated.

The **determination** unit **determines** whether the final composite is used

for calculating the cost of the building based on which the lowest value of

the building is saved.

DESCRIPTION - INDEPENDENT CLAIMS are included for the following:

- 1.Method for calculating threshold value of a composite;
- 2.Computer readable medium storing threshold value calculation
  program;
  - 3.Lowest cost permutation determination system;
- 4. Computer readable medium storing lowest cost permutation determination

program; and

- 5. System for calculating threshold value.
- USE For database management system for use with data processor

ADVANTAGE - The lowest cost permutation is  $\mbox{determined}$  efficiently minimizing the computation time. Also the CPU storage and elapse time are

significantly reduced.

DESCRIPTION OF DRAWINGS - The figure shows the flowchart explaining

the

method of calculating threshold value.

Title Terms/Index Terms/Additional Words: LOW; COST; PERMUTATION;
 DETERMINE; METHOD; DATA; PROCESSOR; FINAL; COMPOSITE; CALCULATE;
BUILD;

BASED; VALUE; SAVE

## Class Codes

International Classification (Main): G06F-017/30

File Segment: EPI; DWPI Class: T01

Manual Codes (EPI/S-X): T01-J05B3; T01-J05B4M; T01-S03

Lowest cost permutation determining method for data processor, involves determining whether the final composite is used for calculating

cost of building based on which lowest...

## Original Titles:

Method and system for determining the lowest cost permutation for joining relational database tables.

Alerting Abstract ... NOVELTY - The cost of building using initial set of

composites are **determined**. The cost of building for next successive larger set of composites whose value does not exceed the threshold value

are calculated. The **determination** unit **determines** whether the final composite is used for calculating the cost of the building based on... ...value of a composite; Computer readable medium storing threshold value

calculation program; Lowest cost permutation determination system; Computer readable medium storing lowest cost permutation determination program; and System for calculating threshold value...

... USE - For database management system for use with data processor .

. . .

...ADVANTAGE - The lowest cost permutation is **determined** efficiently minimizing the computation time. Also the CPU storage and elapse time are significantly reduced

Title Terms.../Index Terms/Additional Words: DETERMINE ;

Original Publication Data by Authority

## Original Abstracts:

...method and system for calculating the lowest cost join permutation for queries which involve multiple database tables is disclosed. A method and system comprises building all initial table composites and determining

the cost of building each member of the set of composites one table at a time. The method and system includes **comparing** the cost of building each member of the composites to a threshold value and skipping...

...for building each member of the next successively larger composites. The method and system includes **determining** if a final composite has been built and stepping to the next composites if the...

...until the final composite has been built. The costs of building a given composite are **compared** to a threshold. The threshold is **determined** by choosing a minimum cost composite from all the composites which have N tables in... Claims:

A method for **determining** the lowest cost permutation for **joining database tables** comprising the steps of: (a) **determining** the cost of building each member of an initial set of composites one table at...

...value; (c) saving the lowest cost for building each member of the next composites; (d) **determining** if a final composite has been built; (e) stepping to the next successively larger set...

(Item 12 from file: 350) 31/69,K/12

DIALOG(R)File 350:Derwent WPIX

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0012754332 - Drawing available

WPI ACC NO: 2002-607514/ XRPX Acc No: N2002-481095

query processing method for client/server database Database

system,

involves selecting rows of successive database tables retrieved in join order, which satisfy specific join condition for determined database query

Patent Assignee: SYBASE INC (SYBA-N)

Inventor: PONNEKANTI N

Patent Family (2 patents, 1 countries)

Application Patent

Kind Date . Update Date Number Number Kind P 20001122 200265 B US 2000252758 20020620 US 20020078015 A1 A 20010705 US 2001900003

B2 20021210 US 2001900003 A 20010705 200301 E US 6493701

Priority Applications (no., kind, date): US 2000252758 P 20001122; US 2001900003 A 20010705

#### Patent Details

Pg Dwg Filing Notes Kind Lan Number 9 Related to Provisional US 40 EN US 20020078015 A1 2000252758

# Alerting Abstract US A1

tables join order is determined in NOVELTY - A database response

to a received database query which specifies a predetermined join condition that should exist between an inner table and an outer table.

of successive tables are retrieved in the join order to test whether

rows satisfy the join condition. The join condition satisfied rows are included in the query.

query processing method for database USE - Database management

system for decision support and OLAP used for client/server applications.

ADVANTAGE - Enables optimizing nested loop joins more efficiently, by ordering tables according to prescribed join condition.

DESCRIPTION OF DRAWINGS - The figure shows the block diagram of a computer software system.

Title Terms/Index Terms/Additional Words: DATABASE; QUERY; PROCESS; METHOD; CLIENT; SERVE; SYSTEM; SELECT; ROW; SUCCESSION; TABLE;

DETERMINE ; JOIN; ORDER; SATISFY; SPECIFIC; CONDITION

International Classification (Main): G06F-017/30, G06F-007/00

File Segment: EPI; DWPI Class: T01 Manual Codes (EPI/S-X): T01-J05B3; T01-J05B4M; T01-N02A3C processing method for client/server database Database query system, involves selecting rows of successive database tables retrieved in determined join order, which satisfy specific join condition for database query Original Titles: Database system with methodogy providing faster n-ary nested loop joins ... Database system with methodogy providing faster N-ary nested loop joins tables Alerting Abstract ... NOVELTY - A database join order is determined in response to a received database query which specifies predetermined join condition that should exist between an inner table and USE - Database query processing method for database management system for decision support and OLAP used for client/server applications... ...ADVANTAGE - Enables optimizing nested loop joins more efficiently, by ordering tables according to prescribed join condition ... Title Terms/Index Terms/Additional Words: DATABASE ; ...

... DETERMINE ;

Original Publication Data by Authority

#### Original Abstracts:

. . .

A database system implementing a methodology or technique that can be used to optimize processing of nested...

... In this manner, the methodology optimizes processing of n-ary nested loop joins by eliminating **comparisons** that will not hold true for the corresponding join condition (for which the **comparisons** were to be tested

...A database system implementing a methodology or technique that can be used to optimize processing of nested...

...In this manner, the methodology optimizes processing of n-ary nested loop joins by eliminating **comparisons** that will not hold true for the corresponding join condition (for which the **comparisons** were to be

tested). Claims:

What is claimed is: b 1 /b . In a database system for representing

information in database tables and for retrieving information from database tables in response to database queries, each database table

comprising data records storing information categorized into one or more

database columns, each database column storing information as an attribute having a particular data type, a method for processing a database query specifying a join of three or more tables, the method comprising: in response to receiving a particular database query specifying a join of three or more tables, determining a join order

for examining the tables during **query processing**, wherein said particular **database** query specifies selection criteria including at least

one join condition that must exist between an inner table and an outer table that is not a directly preceding table in the join order; retrieving rows from successive tables per the join order, including:

determining whether a join condition that is being tested refers back

more-outer table that is not a directly preceding table, if the join condition is not met, fetching the next row, if any, from said more-outer

table...

...if the join condition is met, continuing down the join order to examine

any subsequent tables in the join order, if any, applying any subsequent query conditions, if any, that must be met in...

...rows under examination meets said selection criteria, qualifying those rows as having satisfied the particular database query...

...What is claimed is: 1. In a database system for representing information in database tables and for retrieving information from database tables in response to database queries, each database table

comprising data records storing information categorized into one or

database columns, each database column storing information as an attribute having a particular data type, a method for processing a database query specifying a join of three or more tables, the method comprising: in response to receiving a particular database query specifying a join of three or more tables, determining a join order

for examining the tables during query processing, wherein said particular database query specifies selection criteria including at least

one join condition that must exist between an inner table and an outer table that is not a directly preceding table in the join order; retrieving rows from successive tables per the join order, including:

determining whether a join condition that is being tested refers back

to a more-outer table that is not a directly preceding **table**, if the **join** condition is not met, fetching the next row, if any, from said more-outer table...

...if the join condition is met, continuing down the join order to examine any subsequent tables in the join order, if any, applying any subsequent query conditions, if any, that must be met in...

...rows under examination meets said selection criteria, qualifying those rows as having satisfied the particular database query.

31/69,K/13 (Item 13 from file: 350)

DIALOG(R) File 350: Derwent WPIX

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0010955145

WPI ACC NO: 2001-578247/200165

XRPX Acc No: N2001-430163

Relational database systems, using equijoin operations giving a merge join process that creates sorted set of outer table rows that satisfy selection criteria and enable parallel execution

Patent Assignee: UNISYS CORP (BURS)

Inventor: LIU L H

Patent Family (1 patents, 1 countries)

Patent Application

Number Kind Date Number Kind Date Update
US 6185557 B1 20010206 US 1998135312 A 19980731 200165 B

Priority Applications (no., kind, date): US 1998135312 A 19980731

#### Patent Details

Number Kind Lan Pg Dwg Filing Notes

US 6185557 B1 EN 13 4

#### Alerting Abstract US B1

NOVELTY - When performing equijoin operations on two tables, as long as

outer table join column value is less than or equal to last key value,

the same data page from inner table will be searched repeatedly. Therefore

inner table index records will not be revisited until outer table
join

column is greater than last data page key value. Combination of next key

and last key allows merge join process to  $\ensuremath{\operatorname{\textbf{determine}}}$  that entire ranges of

outer rows do not have matching inner rows.

DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

- 1.A computer readable medium having computer executable modules for joining data rows from two tables.
- 2.A merge join process for joining data rows from two tables which

have a common data column.

USE - Relational database systems

ADVANTAGE - Designed to minimize processor time and file input and output

when performing equijoin operations on two tables. Reduces or eliminates

searches of the inner index records and the data pages. Reduces cache thrashing on the inner index records and so the required index record is

likely to be in the cache when needed. Minimizing the traversal of the index records and data pages on mass storage minimizes the number of

operations performed, and therefore provides a more efficient search process. Also , because the merge join process is structurally suited for

execution on the multi-processor computers, the speed of the database queries can be increased through parallel processing.

Title Terms/Index Terms/Additional Words: RELATED; DATABASE; SYSTEM; OPERATE; MERGE; JOIN; PROCESS; SORT; SET; OUTER; TABLE; ROW; SATISFY; SELECT; CRITERIA; ENABLE; PARALLEL; EXECUTE

#### Class Codes

International Classification (Main): G06F-017/00

File Segment: EPI; DWPI Class: T01

Manual Codes (EPI/S-X): T01-E01A; T01-H07C5E; T01-J; T01-J05B3; T01-

J05B4B;

T01-M02A1; T01-S03

Relational database systems, using equijoin operations giving a merge join process that creates sorted set of outer...

Alerting Abstract ... NOVELTY - When performing equijoin operations on two

tables, as long as outer table join column value is less than or equal

to last key value, the same data page...

 $\ldots$ will be searched repeatedly. Therefore inner table index records will

not be revisited until outer **table join** column is greater than last data page key value. Combination of next key and last key allows merge join

process to **determine** that entire ranges of outer rows do not have matching inner rows...A computer readable medium having computer executable modules for joining data rows from two **tables**. A merge **join** 

process for joining data rows from two tables which have a common
data
column...

...USE - Relational database systems...

...process is structurally suited for execution on the multi-processor computers, the speed of the **database** queries can be increased through parallel processing.

Title Terms.../Index Terms/Additional Words: DATABASE;
Original Publication Data by Authority

# Original Abstracts:

 $\ldots$  when the inner table is indexed on a data column that is common to both

tables . The merge join process creates a set of rows from the outer table that satisfy a selection criteria...

...column in a inner row stored on the data page. The merge join process also **determines** that a matching inner row does not exist in the inner table when the value...

31/69,K/14 (Item 14 from file: 350)

DIALOG(R) File 350: Derwent WPIX

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0010949877 - Drawing available

WPI ACC NO: 2001-572751/200165

XRPX Acc No: N2001-426983

Query generator for database system, determines requirement of aggregation of data in different tables and accordingly generates query Patent Assignee: CAVE S D (CAVE-I); FRAGAPANE P (FRAG-I); KEARSEY N (KEAR-I); LAVENDER R L (LAVE-I); NASH K (NASH-I); ORACLE CORP (ORAC-N)

; OSBORN A (OSBO-I)

Inventor: CAVE S D; FRAGAPANE P; KEARSEY N; LAVENDER R; LAVENDER R L; NASH

K: OSBORN A

Patent Family (2 patents, 26 countries)

Patent Application

Kind Number Kind Number Date Date EP 1134671 A1 20010919 EP 2000302134 A 200,00316 200165 A1 20020124 US 2000730826 A 20001207 200210 E US 20020010695

Priority Applications (no., kind, date): EP 2000302134 A 20000316

#### Patent Details

Number Kind Lan Pg Dwg Filing Notes

EP 1134671 A1 EN 15 7

Regional Designated States, Original: AL AT BE CH CY DE DK ES FI FR GB GR

IE IT LI LT LU LV MC MK NL PT RO SE SI

#### Alerting Abstract EP A1

NOVELTY - A processor (3) **determines** whether the input requires a

of data in different tables and whether aggregation is needed. If required,

the **processor** generates a **query** causing the **database** (2) to aggregate

the data from the required tables.

DESCRIPTION - An INDEPENDENT CLAIM is also included for data base system.

USE - For generating a query for obtaining selected data from and into

the database .

ADVANTAGE - The query generator can efficiently handle the calculation of

aggregation and linking of data that are stored in different tables. Complex folder structure construction is eliminated when handling a mis-interpreted data.

DESCRIPTION OF DRAWINGS - The figure shows an example of database system incorporating a query generator and processor.

- 2 Database
- 3 Processor

Title Terms/Index Terms/Additional Words: QUERY; GENERATOR; DATABASE; SYSTEM; DETERMINE; REQUIRE; AGGREGATE; DATA; TABLE; ACCORD;

# GENERATE

#### Class Codes

International Classification (Main): G06F-017/30

File Segment: EPI; DWPI Class: T01

Manual Codes (EPI/S-X): T01-F05E; T01-J04A; T01-J05B2; T01-J05B4P

Query generator for database system, determines requirement of aggregation of data in different tables and accordingly generates query

Alerting Abstract ... NOVELTY - A processor (3) determines whether input requires a link of data in different tables and whether

aggregation

is needed. If required, the processor generates a query causing the database (2) to aggregate the data from the required

tables.DESCRIPTION base system... An INDEPENDENT CLAIM is also included for data

... USE - For generating a query for obtaining selected data from and into the database .

...DESCRIPTION OF DRAWINGS - The figure shows an example of database system incorporating a query generator and processor.

## ...2 Database

Title Terms.../Index Terms/Additional Words: DATABASE ; ...

# ... DETERMINE ;

Original Publication Data by Authority

# Original Abstracts:

...to a query generator (7) for generating a query for obtaining selected data from a database (2). The query generator (2) includes a processor (73) which is adapted to receive an...

...indicating the selected data to be obtained. The processor (73) then analyses the input to determine whether the input requires a joining

data in different tables, and an aggregation step. If so, the processor (73) generates a query which causes the database (2) to aggregate the data within each of the tables as required; and, join the aggregated

data, the joined aggregated data representing the selected data...

... relates to a query generator for generating a query for obtaining selected data from a database . The query generator includes a

processor

which is adapted to receive an input indicating the selected data to be obtained. The processor then analyses the input to **determine** whether the

input requires a joining of data in different tables, and an aggregation

step. If so, the **processor** generates a **query** which causes the **database** 

to aggregate the data within each of the **tables** as required; and,

the aggregated data, the joined aggregated data representing the selected

data.

# Claims:

A query generator for generating a query for obtaining selected data from a

database, the database having a number of tables in which data is stored, the query generator comprising a processor which is coupled to the

database in use, the processor being adapted to:a. receive an input indicating the selected data to be obtained;b. analyse the input and determine whether the input requires a joining of data in different tables, and an aggregation step...

...so, causing the processor to generate a query, the query being adapted

to cause the database to:i. aggregate the data within each of the tables

as required; and, ii. join...

...claim: b 1 /b . A query generator for generating a query for obtaining selected data from a database , the database having a number of tables

in which data is stored, the query generator comprising a processor which

is coupled to the database in use, the processor being adapted to:a. receive an input indicating the selected data to be obtained;b. analyse

input and **determine** whether the input requires a joining of data in different tables, and an aggregation step...

...so, causing the processor to generate a query, the query being adapted to cause the database to:i. aggregate the data within each of the

tables

as required; and, ii. join...

(Item 15 from file: 350) 31/69,K/15

DIALOG(R) File 350: Derwent WPIX

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0010871147

WPI ACC NO: 2001-490570/

Related WPI Acc No: 2000-328999; 2000-339151; 2000-339161; 2000-339162; 2001-490569; 2002-654694; 2002-705322; 2003-584345; 2003-743191;

2004-345205

XRPX Acc No: N2001-363050

Method of providing a description of logic used in processing

hierarchically applying a series of decision criteria to the data to produce the outcome and recording a rule determined from each such application

Patent Assignee: NCR CORP (NATC); NCR INT INC (NATC)

Inventor: O'FLAHERTY K W; TATE B D

Patent Family (2 patents, 26 countries)

Application Patent Update Date Date: Number Kind Kind Number A 20000928 200154 EP 2000308496 20010404 A1 EP 1089222 US 1998102831 200374 E P 19981002 20031007 В1 US 6631361

P 19981002 US 1998102832 A 19991001 US 1999410532

Priority Applications (no., kind, date): US 1998102832 P 19981002; US 1998102831 P 19981002; US 1999410532 A 19991001

#### Patent Details

Pg Dwg Filing Notes Kind Lan Number

19 13 A1 EN EP 1089222

Regional Designated States, Original: AL AT BE CH CY DE DK ES FI FR GB

IE IT LI LT LU LV MC MK NL PT RO SE SI

US Related to Provisional B1 EN US 6631361

1998102831

Related to Provisional

1998102832

# Alerting Abstract EP A1

NOVELTY - The rules which are recorded are those flowing from the application of each decision criteria in a decision tree model. The decisions will typically involve yes/no multiple choice questions and

are applied to the decision criteria one at a time, in hierarchical order.

Each application provides a rule which is recorded to make all the decisions easily explicable.

DESCRIPTION - INDEPENDENT CLAIMS are included for

- 1.apparatus for providing a description of logic used in processing data
  - 2.and a program storage device readable by a computer and embodying instructions to cause the computer to perform a method of providing

description of logic used in processing data.

USE - Managing databases.

ADVANTAGE - Provides a comprehensible description of an automated data

processing function, e.g. to comply with legislation entitling individuals

to an explanation of the outcome produced by an automated data processing system.

Title Terms/Index Terms/Additional Words: METHOD; DESCRIBE; LOGIC; PROCESS;

DATA; HIERARCHY; APPLY; SERIES; DECIDE; CRITERIA; PRODUCE; RECORD; RULE;

DETERMINE

# Class Codes

International Classification (Main): G06F-017/00, G06N-005/04

File Segment: EPI; DWPI Class: T01

Manual Codes (EPI/S-X): T01-E02C; T01-J05B4M; T01-J16C2; T01-S03

Method of providing a description of logic used in processing data by

hierarchically applying a series of decision criteria to the data to produce the outcome and recording a rule determined from each such application

Alerting Abstract ... to cause the computer to perform a method of providing a description of logic used in processing data...

... USE - Managing databases...

...ADVANTAGE - Provides a comprehensible description of an automated data processing function, e.g. to comply with legislation entitling individuals to an explanation of the outcome produced by an automated data processing system.

Title Terms.../Index Terms/Additional Words: DETERMINE

Original Publication Data by Authority

# Original Abstracts:

A method, apparatus, and article of manufacture for providing a description

of logic used in **determining** an outcome based on automatic **processing** 

of data is disclosed. The method comprises the steps of hierarchically

applying a series of decision criteria to the data to arrive at the outcome, while recording a rule **determined** from application of each decision criteria to the data, and retrieving the recorded rules. The...

... A method, apparatus, and article of manufacture for providing a

description of logic used in determining an outcome based on automatic

processing of data is disclosed. The method comprises the steps of hierarchically applying a series of decision criteria to the data to

at the outcome, while recording a rule determined from application of each decision criteria to the data, and retrieving the recorded rules.

# Claims:

A method of providing a description of logic used in determining outcome based on processing of data, wherein the logic is substantially describable by a decision tree having a hierarchical set of...

...of decision criteria to the data to arrive at the outcome, while recording a rule determined from application of each decision criteria to

the data; andretrieving the recorded rules...

...computer implemented method storable on a recordable media for providing a description of logic used in determining an outcome based on processing of data, wherein the logic is substantially describable by decision tree having a hierarchical set ...

...series of decision criteria to the data to arrive at the outcome, recording a rule determined from application of each decision criteria to the data; recording an identification of the...

...column having the identification for each recorded rule; andretrieving the recorded rules, including the step of joining the results table with a rule table having the set of rules associated with the decision...

31/69,K/16 (Item 16 from file: 350)

DIALOG(R) File 350: Derwent WPIX

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0009751834 - Drawing available WPI ACC NO: 2000-038017/200003

XRPX Acc No: N2000-028660

Query processing method for database management system

Patent Assignee: ORACLE CORP (ORAC-N)
Inventor: FINNERTY J; RAITTO J; ZIAUDDIN M
Patent Family (1 patents, 1 countries)
Patent Application

 Number
 Kind
 Date
 Number
 Kind
 Date
 Update

 US 5991754
 A 19991123
 US 1998222249
 A 19981228
 200003
 B

Priority Applications (no., kind, date): US 1998222249 A 19981228

# Patent Details

Number Kind Lan Pg Dwg Filing Notes
US 5991754 A EN 34 9

# Alerting Abstract US A

NOVELTY - If materialized view reflecting specific set of aggregate functions satisfies each set condition, the query is rewritten to produce a

rewritten query that references the view. The results of particular function for target population, is derived from variance, sum and count of

source population.

DESCRIPTION - The query specifies a predetermined set of aggregate functions including particular function to be applied to target population.

The target applied function is an aggregation function comprising variance

and standard deviation. The set of conditions include that each aggregate

function in predetermined set should be computable from corresponding functions in specific set. The argument to each function in predetermined

set should be equivalent to that of corresponding functions in specific set. During testing of each function in predetermined set, it is determined whether the particular materialized view includes variance,

and count of source population on which target population is functionally

dependent. An INDEPENDENT CLAIM is also included for a computer program product.

USE - For database management system.

ADVANTAGE - The number of materialized views that a database must contain to efficient process particular set of queries, is reduced, thus

reducing size of database and eliminating overhead associated with maintaining the materialized view. Allows more number of queries to correspond with set of materialized views thus improving execution speed.

DESCRIPTION OF DRAWINGS - The figure shows the steps involved in

aggregate compatibility test.

Title Terms/Index Terms/Additional Words: QUERY; PROCESS; METHOD; DATABASE

; MANAGEMENT; SYSTEM

#### Class Codes

International Classification (Main): G06F-017/30

File Segment: EPI; DWPI Class: T01

Manual Codes (EPI/S-X): T01-J05B

Query processing method for database management system

Alerting Abstract ...corresponding functions in specific set. During testing of each function in predetermined set, it is determined whether

the particular materialized view includes variance, sum and count of source population on which...

... USE - For database management system...

...ADVANTAGE - The number of materialized views that a database must contain to efficient process particular set of queries, is reduced, thus

reducing size of database and eliminating overhead associated with maintaining the materialized view. Allows more number of queries to...

Title Terms.../Index Terms/Additional Words: DATABASE;

Original Publication Data by Authority

# Original Abstracts:

A method and system are provided for **processing queries**, where the queries do not reference a particular materialized view. Specifically, techniques are provided for...

...second set of one or more aggregate functions. Whether the query can be

rewritten is **determined** based on the aggregate functions in the first and

second sets, and the corresponding arguments. Techniques are also provided

for **processing** a **query** that (1) does not reference a particular materialized view, (2) specifies a first set of...

...an outer join that has a dimension table on the child-side of the outer

 ${\tt join}$  and a fact  ${\tt table}$  on the parent-side of the outer join. The query is

rewritten to produce a...

#### Claims:

A method for **processing queries**, the method comprising the steps of:receiving a query that does not reference a particular...

...functions; said particular materialized view reflecting a second set of one or more aggregate functions; determining whether the particular materialized view satisfies each condition in a set of conditions, the set

...or more corresponding aggregate functions in said second set of aggregate functions, wherein said testing includes determining whether the particular materialized view includes a variance, sum, and count of a source...

31/69,K/17 (Item 17 from file: 350)

DIALOG(R) File 350: Derwent WPIX

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0009621157 - Drawing available

WPI ACC NO: 1999-571522/199948

XRPX Acc No: N1999-421166

Full outer join specification method using SQL for relational database

management system

Patent Assignee: INT BUSINESS MACHINES CORP (IBMC)

Inventor: CHENG J M; LEUNG T Y; PIRAHESH M H

Patent Family (1 patents, 1 countries)

Patent

Application

Number Kind Date Number

Update Kind Date

19991005 US 1997882027 US 5963933 Α A 19970625 199948 B

Priority Applications (no., kind, date): US 1997882027 A 19970625

## Patent Details

Number Pg Dwg Filing Notes Kind Lan

US 5963933 18 Α EΝ

# Alerting Abstract US A

NOVELTY - The tuples of two tables are joined by union of a left outer join with a right outer join lesser than matched tuples from

outer join, using a full outer join. The join condition is free from restrictions of type of join conditions specified.

DESCRIPTION - A data processor stores data in the form of two tables each defining an operand, which is retrievable by query language.

The join condition is selected from the set of comparison operators like

IS NULL, LIKE, EQUALS, DOES NOT EQUAL, IS GREATER THAN, IS LESS THAN, TS

GREATER THAN OR EQUAL TO, IS LESSER THAN OR EQUAL TO. The comparison operators are combined with logical operators such as AND, OR, and NOT.

INDEPENDENT CLAIM is also included for a full outer join specification apparatus.

USE - For relational database management system.

ADVANTAGE - The method enables the use of a modified merge join to implement full outer join which enables the use of arbitrary join conditions other than the equality predicate. A full outer join is implemented with any join condition without any new runtime operators.

DESCRIPTION OF DRAWINGS - The figure shows flow chart of implementing full outer join with any join condition.

Title Terms/Index Terms/Additional Words: FULL; OUTER; JOIN; SPECIFICATION;

METHOD; SQL; RELATED; DATABASE; MANAGEMENT; SYSTEM

#### Class Codes

International Classification (Main): G06F-017/30

File Segment: EPI;

DWPI Class: T01

Manual Codes (EPI/S-X): T01-J05B

Full outer join specification method using SQL for relational database management system

Alerting Abstract ... NOVELTY - The tuples of two tables are joined by union of a left outer join with a right outer join lesser than matched... DESCRIPTION - A data processor stores data in the form of two each defining an operand, which is retrievable by query language. The condition is selected from the set of comparison operators like IS LIKE, EQUALS, DOES NOT EQUAL, IS GREATER THAN, IS LESS THAN, IS GREATER THAN OR EQUAL TO, IS LESSER THAN OR EQUAL TO. The comparison are combined with logical operators such as AND, OR, and NOT. An INDEPENDENT CLAIM...

... USE - For relational database management system...

Title Terms.../Index Terms/Additional Words: DATABASE;

Original Publication Data by Authority

#### Claims:

In a relational database management system utilizing a data processor for storing data in the form of at least a first table defining a first operand and a...

...comprised of tuples having one or more columns, wherein the data contained in the relational database management system is retrievable means of query language queries to the database management system, a data processor implemented method for returning an answer set from data in the tables responsive to a query to the database management system, the answer set requiring the matching of tuples from the first table and...

31/69,K/18 (Item 18 from file: 350)

DIALOG(R) File 350: Derwent WPIX

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0009377831 - Drawing available

WPI ACC NO: 1999-312372/ XRPX Acc No: N1999-233306

Database table linking method using structured query language for

application program interface

Patent Assignee: INT BUSINESS MACHINES CORP (IBMC)

Inventor: KLEEWEIN J C; LIN E T; MAHESHWARI H

Patent Family (1 patents, 1 countries)

Patent Application

Number Kind Date Number Kind Date Update
US 5903893 A 19990511 US 1997931404 A 19970915 199926 B

Priority Applications (no., kind, date): US 1997931404 A 19970915

Patent Details

Number Kind Lan Pg Dwg Filing Notes

US 5903893 A EN 9 3

Alerting Abstract US A

NOVELTY - During composition predicates listing each data value to be accessed from remote table and range of values are provided. During run time if count of data values in local table to be joined with values in

remote table exceeds threshold value, the predicate indicating range of values is assigned in a query to a DBMS and data access is carried out.

DESCRIPTION - If the count does not exceed threshold value then predicate

indicating list of each data value is assigned to a **DBMS** through a structured query language. During predicate assigning, utilization of collating sequences by **DBMS** is also **determined**. An INDEPENDENT CLAIM is

also included for memory media for controlling table linking operation.

USE - For linking database table using structured query languages

for

application program interface.

ADVANTAGE - Communication cost is reduced by avoiding fetch of unnecessary rows from outer table. Performance of merge operation is improved by reducing cardinality of outer table.

DESCRIPTION OF DRAWINGS - The figure shows logical flow diagram which illustrates operational method of table linking.

Title Terms/Index Terms/Additional Words: DATABASE ; TABLE; LINK;
METHOD;

STRUCTURE; QUERY; LANGUAGE; APPLY; PROGRAM; INTERFACE

Class Codes

International Classification (Main): G06F-017/30

File Segment: EPI;

DWPI Class: T01

Manual Codes (EPI/S-X): T01-J05B3; T01-J05B4M; T01-J05B4P; T01-J20B1

Database table linking method using structured query language for application program interface

## Original Titles:

Method and apparatus for optimizing a merge-join operation across heterogeneous databases .

Alerting Abstract ... range of values are provided. During run time if count of data values in local table to be joined with values in remote

table exceeds threshold value, the predicate indicating range of values is

assigned in a query to a **DBMS** and data access is carried out...exceed

threshold value then predicate indicating list of each data value is assigned to a **DBMS** through a structured query language. During predicate

assigning, utilization of collating sequences by  ${\tt DBMS}$  is also  ${\tt determined}$ 

. An INDEPENDENT CLAIM is also included for memory media for controlling table linking operation...

... USE - For linking database table using structured query languages for application program interface...

Title Terms/Index Terms/Additional Words: DATABASE;

Original Publication Data by Authority

# Original Abstracts:

 $\ldots$ data in at least two tables, with one of the tables stored in a remote

database (hereafter "remote table") and another table stored in a local

database (hereafter "local table"). The entry values in both the local table and the remote table...

...of the entry values. The method of the join operation generally includes

the steps of: **determining** a count of a number of entry values that reside

in the local table that are to be joined with entry values in the  $\ensuremath{\mathsf{remote}}$ 

table; comparing the count with a threshold value, and (i) if the count

exceeds the threshold value...

...query to the remote table to fetch a range of entry values therefrom,

the range **determined** by the range of entry values to be **joined** from the

local table; and (ii) if the count does not exceed the threshold value,

issuing a query to...

...remote table to fetch each specific entry value that matches the entry values to be joined from the local table.

A method for performing an enhanced join operation at a local processor

between data from at least two tables, one table stored in a remote database (hereafter "remote table") and a second table stored in a second

database (hereafter "local table") in association with said local processor, said method comprising the steps of...

...relevant to said local table and said remote table and (iii) data entries to be **joined** from said local **table**, and providing a recommended predicate to be dispatched to said remote table in response to...

...of data values to be accessed from said remote table; b) during a run time, determining if a count of a number of data values in the local

time, determining if a count of a number of data values in the local table to be joined with data values in the remote table exceeds or does

not exceed a threshold value...

...said a second predicate is recommended, employing said second predicate

in a query to a database management system ( DBMS ) which controls the

remote table to access a range of data values and associated data... ... and said first predicate is recommended, employing said first predicate

in a query to said DBMS to access a specific list of data values and associated data from said remote table.

31/69,K/19 (Item 19 from file: 350)

DIALOG(R) File 350: Derwent WPIX

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0009014159 - Drawing available WPI ACC NO: 1998-570712/199849

XRPX Acc No: N1998-444203

3-tier query system for database using query engine for building objects

in memory - applies query rewrite optimisations to query from application

and applies them to query referencing view type to minimise number of objects built for query

Patent Assignee: CAREY M J (CARE-I); IBM CORP (IBMC); INT BUSINESS MACHINES CORP (IBMC); KIERNAN G G (KIER-I)

Inventor: CAREY M J; KIERNAN G G

Patent Family (10 patents, 27 countries)

Pa	tent	_		Ap	plication				
Number		Kind	Date	Number		Kind	Date	Update	
ΕP	877328	A2	19981111	EΡ	1998303616	Α	19980508	199849	В
JP	11003359	Α	19990106	JP	1998121038	A	19980430	199911	E
JP	11167513	Α	19990622	JP	1998122327	Α	19980501	199935	E
US	6122627	Α	20000919	US	1997853976	Α	19970509	200048	E
US	6134540	Α	20001017	US	1997853294	Α	19970509	200054	E
US	6226637	B1	20010501	US	1997853976	Α	19970509	200126	E
				US	1999392360	Α	19990908		
US	20010051949	A1	20011213 -	US	1997853976	Α	19970509	200204	E
				US	1999392360	Α	19990908		
				US	2001801988	Α	20010307		
US	6477527	B2	20021105	US	1997853976	Α	19970509	200276	E
				US	1999392360	Α	19990908		
				US	2001801988	Α	20010307		
JP	3362770	B2	20030107	JP	1998121038	Α	19980430	200306	E
JΡ	2003036272	Α	ל2003020	JP	1998121038	A	19980430	200320	E
				JP	2002125886	Α	19980430		

Priority Applications (no., kind, date): US 2001801988 A 20010307; US 1999392360 A 19990908; US 1997853976 A 19970509; US 1997853294 A 19970509

#### Patent Details

Number Kind Lan Pg Dwg Filing Notes EP 877328 A2 EN 36 9

Regional Designated States, Original: AL AT BE CH CY DE DK ES FI FR GB GR

IE IT LI LT LU LV MC MK NL PT RO SE SI

JP 11003359 A JA 38 JP 11167513 A JA 32 US 6226637 B1 EN Con

S 6226637 B1 EN Continuation of application US 1997853976

US 20010051949 A1 EN Continuation of patent US 6122627
Continuation of application US 1997853976
Continuation of application US

1999392360 Continuation of patent US 6122627

US 6477527	В2	EN		Continuation of patent US 6226637 Continuation of application US
1997853976				Continuation of application US
1999392360				Continuation of patent US 6122627 Continuation of patent US 6226637
JP 3362770 11003359	B2	JA	40	Previously issued patent JP
JP 2003036272 1998121038	A	JA .	36	Division of application JP

# Alerting Abstract EP A2

The query system includes a query engine with the capability to build objects in a memory based on a view type referenced in a query received from an application. Query rewrite optimisations are applied to the

referencing the view type to minimise the number of objects built for

query. Objects are built if the query requests a handle.

Some of the predicates of the query are pushed down to the database management system to restrict the results and in this way restrict the number of objects that have to be built to resolve the query.

USE - For systems, methods, and programs in field of integrating object

technology with database technology in client server environment. ADVANTAGE - Minimises number of objects built for query.

Title Terms/Index Terms/Additional Words: TIER; QUERY; SYSTEM; DATABASE ;

ENGINE; BUILD; OBJECT; MEMORY; APPLY; REWRITING; REFERENCE; VIEW;

MINIMISE; NUMBER; DATABASE; MANAGEMENT; SYSTEM

## Class Codes

International Classification (Main): G06F-012/00, G06F-017/30

File Segment: EPI; DWPI Class: T01

Manual Codes (EPI/S-X): T01-F07; T01-J05B3; T01-M02A1B

3-tier query system for database using query engine for building objects in memory...

# Original Titles:

... Database query system and method...

PROCESSING SYSTEM, ITS METHOD, AND RECORDING MEDIUM ... QUERY RECORDED WITH THE PROGRAM

Alerting Abstract ... Some of the predicates of the query are pushed down to the database management system to restrict the results and in this wav

restrict the number of objects...

...USE - For systems, methods, and programs in field of integrating object

technology with database technology in client server environment...

Title Terms.../Index Terms/Additional Words: DATABASE ; ...

#### ... DATABASE ;

Original Publication Data by Authority

# Original Abstracts:

- ...query results. For example, when a query over a view is analyzed and it
- is **determined** that the query is not requesting a handle, and is not referencing a method, but...
- $\ldots$ a reference type attribute, but the query can be transformed into a join
- or outer **join** operation between relational **tables**, then no object building is required. In these above described situations, the rewritten query can be pushed down to the **database** management system of the data

source for resolution. If the query does request a handle...

 $\ldots$ can still be applied so that parts of the query are pushed down to the

DBMS to minimize the number of objects that are built...

- $\ldots$ query results. For example, when a query over a view is analyzed and it
- is **determined** that the query is not requesting a handle, and is not referencing a method, but...
- $\dots$  a reference type attribute, but the query can be transformed into a join
- or outer **join** operation between relational **tables**, then no object building is required. In these above described situations, the rewritten
- query can be pushed down to the database management system of the data

source for resolution. If the query does request a handle...

 $\ldots$ can still be applied so that parts of the query are pushed down to the

DBMS to minimize the number of objects that are built...

...can also be applied so that parts of the query are pushed down to the

DBMS to minimize the number of objects that need to be built... Claims:

...andmeans for applying query rewrite optimizations to the query referencing the view type, wherein the query rewrite optimizations determine which portions of the query to push down to a database at a second tier for resolution and which portions of the query are to be

processed by the query engine at a first tier to build objects from the view...

31/69,K/20 (Item 20 from file: 350).

DIALOG(R) File 350: Derwent WPIX

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0009003816 - Drawing available

WPI ACC NO: 1998-559636/ XRPX Acc No: N1998-436409

Join order selecting method implemented on computer for query in database

system - computes value of Sigma metric for each join order of set of possible join orders, selects join order for query with computed values of

Sigma metric, value of join order is sum over all joins in estimate order

#### of cardinality of each join

Patent Assignee: INFORMIX SOFTWARE INC (INFO-N); INT BUSINESS MACHINES CORP (IBMC)

Inventor: KRISHNA M M

Patent Family (9 patents, 31 countries)

Patent				Application							
Number	Kind	Date	Number		Kind	Date	Update				
EP 875838	A2	19981104	ΕP	1998303480	Α	19980505	199848	В			
AU 199863568	Α	19981105	ΑU	199863568	Α	19980424	199905	E			
JP 11007454	Α	19990112	JP	1998119252	Α	19980428	199912	E			
CA 2236494	A	19981102	CA	2236494	Α	19980501	199915	Ε			
BR 199801531	Α	19990330	BR	19981531	Α	19980430	199919	E			
MX 199803441	A1	19990201	ΜX	19983441	Α	19980430	200055	E			
US 6138111	Α	20001024	US	1997850246	Α	19970502	200055	E			
AU 730251	В	20010301	AU	199863568	Α	19980424	200117	E			
MX 211203	В	20021106	MX	19983441	Α	19980430	200381	Ε			

Priority Applications (no., kind, date): US 1997850246 A 19970502

## Patent Details

Number Kind Lan Pg Dwg Filing Notes

EP 875838 A2 EN 15 6

Regional Designated States, Original: AL AT BE CH CY DE DK ES FI FR GB GR

IE IT LI LT LU LV MC MK NL PT RO SE SI

JP 11007454 A JA 13

CA 2236494 A EN

BR 199801531 A PT

AU 730251 B EN Previously issued patent AU

9863568

## Alerting Abstract EP A2

The computer implemented method (2) selects a join order for a query having two or more join operations and computes a value of a Sigma metric

for each join order of a set of possible join orders. A join order is selected for the query using the computed values of the Sigma metric.

The value of the join order of is the sum of cardinailities over all the

joins in the join order. An estimate of the cardinality of each join is generated as it is performed in the join order; the cardinality of a

join

is the number of tuples that will result from the join.

USE - Query optimisation in database system and to join order optimisation in relational database systems.

ADVANTAGE - Calculates good join order in multiple join order query by

using metric designed to **compare** relative efficiencies of alternative join orders.

Title Terms/Index Terms/Additional Words: JOIN; ORDER; SELECT; METHOD; IMPLEMENT; COMPUTER; QUERY; DATABASE; SYSTEM; COMPUTATION; VALUE; SIGMA

; METRIC; SET; POSSIBILITY; SUM; ESTIMATE

#### Class Codes

International Classification (Main): G06F-017/00, G06F-017/30, G11B-017/00

File Segment: EPI; DWPI Class: T01

Manual Codes (EPI/S-X): T01-J05B3

Join order selecting method implemented on computer for query in database system...

Alerting Abstract ... USE - Query optimisation in database system and to join order optimisation in relational database systems...

...ADVANTAGE - Calculates good join order in multiple join order query by using metric designed to **compare** relative efficiencies of alternative join orders.

Title Terms.../Index Terms/Additional Words: DATABASE;

Original Publication Data by Authority

Original Abstracts:

Method and apparatus for optimizing the **processing** of join **queries** based on join cardinality. Embodiments implement the methods in query optimizers in relational **database** management systems. A good join order

for a multiple join query is found with a metric that **compares** the relative merits of candidate join orders as a whole. Embodiments

the join selectivity of foreign key - foreign key joins, where both participating tables are foreign keys with respect to a primary or unique

key of one primary table. A graph representation of a query is

to estimate the join cardinality of an arbitrarily large number of filters and joins, including...

...Method and apparatus for optimizing the **processing** of join **queries** 

based on join cardinality. Embodiments implement the methods in query optimizers in relational **database** management systems. A good join order

for a multiple join query is found with a metric that **compares** the relative merits of candidate join orders as a whole. Embodiments estimate

the join selectivity of foreign key-foreign key joins, where both participating tables are foreign keys with respect to a primary or unique

key of one primary table. A graph representation of a query is processed

to estimate the join cardinality of an arbitrarily large number of filters and joins, including...

31/69,K/21 (Item 21 from file: 350)

DIALOG(R) File 350: Derwent WPIX

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0008778448 - Drawing available

WPI ACC NO: 1998-322214/ XRPX Acc No: N1998-252044

Query optimisation method for relation database - involves finding

NIOL

conditions to form chain to form tables according to graph join theory

and reordering in FROM clause

Patent Assignee: BULL HN INFORMATION SYSTEMS INC (HONE)

Inventor: GRAY J E

Patent Family (1 patents, 1 countries)

Patent Application

Number Kind Date Number Kind Date Update
US 5758335 A 19980526 US 1996722825 A 19960927 199828 B

Priority Applications (no., kind, date): US 1996722825 A 19960927

Patent Details

Number Kind Lan Pg Dwg Filing Notes

US 5758335 A EN 7 1

# Alerting Abstract US A

The query optimisation method involves examining the WHERE clause and finding all join conditions that are present. A chain of the join conditions is formed.

A list of tables is established where i) tables that are in the WHERE clause but not in the join conditions are listed first; ii) tables in the

join .chains formed according to graph theory are listed next in the same

order as they appear in the join chain such that the tables from the longest chains are listed before the tables from shorter chains and all tables at a given distance from a root table of the chain occur together

before the next level in the join chain. The tables are reordered in

the FROM clause in the list order.

ADVANTAGE - Quickly finds access plan. Orders tables in FROM clause according to optimal join order in WHERE clause **determined** by graph theory.

Title Terms/Index Terms/Additional Words: QUERY; OPTIMUM; METHOD; RELATED:

DATABASE; FINDER; JOIN; CONDITION; FORM; CHAIN; TABLE; ACCORD; GRAPH;

THEORY

## Class Codes

International Classification (Main): G06F-017/30

File Segment: EPI; DWPI Class: T01

Manual Codes (EPI/S-X): T01-J05B3; T01-J05B4B

Query optimisation method for relation database - ...

...involves finding JOIN conditions to form chain to form tables according to graph join theory and reordering in FROM clause

## Original Titles:

Optimizing table join ordering using graph theory prior to query optimization.

Alerting Abstract ...are in the WHERE clause but not in the join conditions are listed first; ii) tables in the join chains formed according to graph theory are listed next in the same order as they...

...from a root table of the chain occur together before the next level in

the **join** chain. The **tables** are reordered in the FROM clause in the list order...

...access plan. Orders tables in FROM clause according to optimal join order in WHERE clause **determined** by graph theory.

Title Terms.../Index Terms/Additional Words: DATABASE;

Original Publication Data by Authority

## Original Abstracts:

A method for improving the efficiency of queries in relational database

management systems that use the exhaustive method of query optimization.

The join structure of the...

#### Claims:

In a relational database computer system including a data processor

, a stored database and a plurality of database tables wherein one or

more of the tables are retrieved by the processor by means of query commands performing a plurality of **join** operations on the **tables** using

a WHERE clause and a FROM clause, a method for improving the query optimization...

...are in the WHERE clause but not in the join conditions are listed first;

ii) tables in the join chains formed according to graph theory are listed next in the same order as they...

31/69,K/22 (Item 22 from file: 350)

DIALOG(R) File 350: Derwent WPIX

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0008596940 - Drawing available WPI ACC NO: 1998-132793/199813

XRPX Acc No: N1998-104911

Method of sending data from database to computer display of varying sizes

- by selecting One of query tables for focused display on computer output

device, focused display is provided for displaying all attributes of selected query table

Patent Assignee: MATSUSHITA DENKI SANGYO KK (MATU); MATSUSHITA

ELECTRIC

IND CO LTD (MATU); MATSUSHITA ELECTRIC SANGYO KK (MATU)

Inventor: ALONSO R; MANI V S

Patent Family (10 patents, 26 countries)

Patent				Application						
Number		Date	Number		Kind	Date	Update			
	A2	19980304	ΕP	1997305515	Α	19970723	199813	В		
228366	Α	19980825	JΡ	1997232966	Α	19970828	199844	E		
348406	Α	19981208	US	1996707214	Α	19960903	199905	E		
	Α	19980706	KR	199740750	Α	19970825	199926	E		
176430	A	19980318	CN	1997117921	Α	19970902	200209	E		
	В	20011217	KR	199740750	Α	19970825	200249	E		
	В1	20030312	ΕP	1997305515	Α	19970723	200319	E		
	E	20030417	DE	69719641	A	19970723	200333	Ε		
			ΕP	1997305515	Α	19970723				
529986	В2	20040524	JP	1997232966	А	19970828	200434	E		
97796	C	20030101	CN	1997117921	Α	19970902	200532	Ε		
	27091 0228366 848406 998024174 176430 11734 27091 9719641	er Kind 27091 A2 0228366 A 848406 A 998024174 A 176430 A 11734 B 27091 B1 9719641 E	Er Kind Date 27091 A2 19980304 0228366 A 19980825 848406 A 19981208 098024174 A 19980706 076430 A 19980318 01734 B 20011217 07091 B1 20030312 0719641 E 20030417	Er Kind Date Nur 27091 A2 19980304 EP 0228366 A 19980825 JP 848406 A 19981208 US 098024174 A 19980706 KR 176430 A 19980318 CN 11734 B 20011217 KR 27091 B1 20030312 EP 0719641 E 20030417 DE EP 529986 B2 20040524 JP	Rr Kind Date Number 27091 A2 19980304 EP 1997305515 0228366 A 19980825 JP 1997232966 848406 A 19981208 US 1996707214 098024174 A 19980706 KR 199740750 0176430 A 19980318 CN 1997117921 01734 B 20011217 KR 199740750 027091 B1 20030312 EP 1997305515 02719641 E 20030417 DE 69719641 02719641 EP 1997305515 029986 B2 20040524 JP 1997232966	Rr Kind Date Number Kind  27091 A2 19980304 EP 1997305515 A  0228366 A 19980825 JP 1997232966 A  848406 A 19981208 US 1996707214 A  898024174 A 19980706 KR 199740750 A  176430 A 19980318 CN 1997117921 A  11734 B 20011217 KR 199740750 A  27091 B1 20030312 EP 1997305515 A  2719641 E 20030417 DE 69719641 A  EP 1997305515 A  EP 1997305515 A	Rr Kind Date Number Kind Date 27091 A2 19980304 EP 1997305515 A 19970723 A228366 A 19980825 JP 1997232966 A 19970828 A348406 A 19981208 US 1996707214 A 19960903 A388024174 A 19980706 KR 199740750 A 19970825 A376430 A 19980318 CN 1997117921 A 19970902 A3734 B 20011217 KR 199740750 A 19970825 A37091 B1 20030312 EP 1997305515 A 19970723 A3719641 E 20030417 DE 69719641 A 19970723 EP 1997305515 A 19970723 A3719641 B2 20040524 JP 1997232966 A 19970723	Rind Date Number Kind Date Update 27091 A2 19980304 EP 1997305515 A 19970723 199813 0228366 A 19980825 JP 1997232966 A 19970828 199844 0348406 A 19981208 US 1996707214 A 19960903 199905 0398024174 A 19980706 KR 199740750 A 19970825 199926 041734 B 20011217 KR 199740750 A 19970902 200209 041734 B 20011217 KR 199740750 A 19970825 200249 041734 B 20030312 EP 1997305515 A 19970723 200319 05719641 E 20030417 DE 69719641 A 19970723 0529986 B2 20040524 JP 1997232966 A 19970828 200434		

Priority Applications (no., kind, date): EP 1997305515 A 19970723; US 1996707214 A 19960903

# Patent Details

Number Kind Lan Pg Dwg Filing Notes

EP 827091 A2 EN 17 8

Regional Designated States, Original: AL AT BE CH DE DK ES FI FR GB GR IE

IT LI LT LU LV MC NL PT RO SE SI JP 10228366 A JA 11 8 KR 1998024174 A KO 8

KR 1998024174 A KO 8
KR 311734 B KO Previously issued patent KR

98024174

EP 827091 B1 EN

Regional Designated States, Original: DE FR GB

DE 69719641 E DE Application EP 1997305515
Based on OPI patent EP 827091

JP 3529986 B2 JA 10 Previously issued patent JP

10228366

# Alerting Abstract EP A2

The method involves processing a query of the database, the query

containing query tables. Weights for each pair of query tables are determined, the weights is indicative of occurrence of the query table pairs in previous queries. Sets of the query table pairs are determined based on the weights. One of the sets which contains query tables specified in the query are sent to the computer output device. A grouping threshold level is based upon display size of the computer output device so that each the set of the sending step can be substantially displayed within display size of the computer output device. One of the query tables is selected a focused display on the computer output device, the focused display is provided for displaying all attributes of the selected query table and attributes of neighbours of the selected query table on the computer output device. ADVANTAGE - Allows user to make use of very small display surface such as those found in mobile computer such as personal digital assistant. Title Terms/Index Terms/Additional Words: METHOD; SEND; DATA; DATABASE COMPUTER; DISPLAY; VARY; SIZE; SELECT; ONE; QUERY; TABLE; FOCUS; OUTPUT: DEVICE; ATTRIBUTE Class Codes International Classification (Main): G06F-013/18, G06F-017/30, G06F-003/00, G06F-003/14 File Segment: EPI; DWPI Class: T01 Manual Codes (EPI/S-X): T01-C04; T01-H07C3C; T01-J12B Method of sending data from database to computer display of varying sizes . . . Alerting Abstract ... The method involves processing a query of database , the query containing query tables. Weights for each pair of query tables are determined , the weights is indicative of occurrence the query table pairs in previous queries. Sets of the query table pairs are determined based on the weights. One of the sets which contains query tables specified in the... Title Terms.../Index Terms/Additional Words: DATABASE;

Original Publication Data by Authority

# Original Abstracts:

A method for presenting information on display devices of varying sizes.

The method processes a query of a database and determines which tables are most likely to contain information which the user wishes to primarily view. The join relationships between tables of the

are used to **determine** the priority for displaying **tables** . Those join

relationships which were used more frequently in previous queries are accorded higher weight scores and...

...A method for presenting information on display devices of varying sizes.

The method **processes** a **query** of a **database** and **determines** which tables are most likely to contain information which the user wishes to primarily view. The **join** relationships between **tables** of the **database** 

are used to determine the priority for displaying tables . Those join

relationships which were used more frequently in previous queries are accorded higher weight scores and...

## Claims:

1. A method for sending data from a database to a computer output device.

said database including a plurality of tables for holding said data,

database having a schema indicative of relationships between said tables.

said tables having attributes, said attributes containing said data,

method comprising: /br processing a query of said database, said

query containing query tables; /br determining weights for each pair

of query tables, said weights being indicative of occurrence of said query

table pairs in previous queries; /br determining sets of said query

table pairs based on said weights; and /br sending to said computer...

...A method for sending data from a database to a computer output device

having a predetermined display size, said database including a plurality

of tables for holding said data, said database having a schema indicative

of relationships between said tables, said tables having attributes, said

attributes containing said data, the method **comprising** :processing a query of **said** database, said query containing query **tables** ;determining

weights for each pair of query tables, said weights being indicative of occurrence of said query table pairs in previous queries; determining sets

of said query table pairs based on said weights; selecting said sets depending...

...consistant a:traiter une requete de ladite base de donnees, ladite requete contenant des tableaux de requete; determiner des poids pour chaque paire de tableaux de requete, lesdits poids indiquant l'occurrence

desdites paires de tableaux de requete dans des requetes precedentes; determiner des ensembles desdites paires de tableaux de requete

en fonction desdits poids; selectionner...

... A method for sending data from a database to a computer output device, said database including a plurality of tables for holding said data, said database having a schema indicative of relationships between said tables, said tables having attributes, said attributes containing said the method comprising : processing a query of said database,

data, said

query containing query tables; determining weights for each pair of query

tables, said weights being indicative of occurrence of said query table pairs in previous queries; determining sets of said query table pairs based on said weights; andsending...

31/69,K/23 (Item 23 from file: 350)

DIALOG(R) File 350: Derwent WPIX

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0008157260 - Drawing available

WPI ACC NO: 1997-258537/ XRPX Acc No: N1997-213868

Computer system for creating and storing resultant database using ANSI-92

SOL2 outer join protocol - has second memory device which is coupled to central processing unit and has push-pop stack area and storage area for

## nodes

Patent Assignee: DAVID M M (DAVI-I)

Inventor: DAVID M M

Patent Family (1 patents, 1 countries)

Patent Application

Number Kind Date Number Kind Date Update
US 5625812 A 19970429 US 1994339454 A 19941114 199723 B

Priority Applications (no., kind, date): US 1994339454 A 19941114

## Patent Details

Number Kind Lan Pg Dwg Filing Notes US 5625812 A EN 10 3

# Alerting Abstract US A

The system includes a central processing unit with a first memory storage

device containing at least a first normalised, relational database . A second memory device coupled to the central processing unit, has a push-pop

stack area and a storage area for nodes.

The first memory device has a set of instructions for controlling the central processing unit to parse the outer join protocol statement into a

number of tokens for execution by the central processing unit in accord with the grammar, syntax and semantics, of ANSI-92 SQL2 outer join protocol

for controlling the actions of the central processing unit. The tokens from

the outer join statement are sequentially parsed to identify if the token

being parsed is a table name, join type (left or right), or a join condition.

ADVANTAGE - Increases accuracy and efficiency of cental processing units operation.

Title Terms/Index Terms/Additional Words: COMPUTER; SYSTEM; STORAGE; RESULT

; DATABASE ; OUTER; JOIN; PROTOCOL; SECOND; MEMORY; DEVICE; COUPLE; CENTRAL; PROCESS; UNIT; PUSH; POP; STACK; AREA; NODE

#### Class Codes

International Classification (Main): G06F-017/30

File Segment: EPI; DWPI Class: T01 Manual Codes (EPI/S-X): T01-H07P; T01-J05B

Computer system for creating and storing resultant database using ANSI-92

SOL2 outer join protocol...

Alerting Abstract ...processing unit with a first memory storage device containing at least a first normalised, relational database . A second memory device coupled to the central processing unit, has a push-pop stack

...outer join statement are sequentially parsed to identify if the token being parsed is a **table** name, **join** type (left or right), or a join condition...

Title Terms.../Index Terms/Additional Words: DATABASE;

Original Publication Data by Authority

#### Original Abstracts:

A method for **determining** data structure by analyzing an outer join protocol statement used to access the data by...

...The top three data are popped from the push-pop stack and represent a right database root structural node token, a join type token (left or right), and a left database structural root node token. The right and left node structures represented by the popped root...

 $\dots$ node structure is pushed back onto the push-pop stack. When all tokens

have been **processed** , the node **data** represented by the resulting root

node on the push-pop stack is ordered in accordance...
Claims:

...protocol for manipulating data contained in the computer system to create and store a resultant database having a known hierarchial data structure represented by an outer join protocol statement, the computer...

...unit coupled with a first memory storage means containing at least a first normalized, relational database, each database in said first storage means including a plurality of data having a known hierarchial data

...tokens from the outer join statement to identify if the token being parsed is a **table** name, **join** type (left or right), or a join condition;

(iii) pushing a new root structural node...

...data items from said push-pop stack in said second memory means representing a right database root structural node token, a join type token (left or right), and a left database structural root node token;

(vii) linking the right and left node structures represented by the...

...the structural node points specified by the current join condition token where the lowest level **table** referenced from said **join** condition in left and right structures are the link node points and the popped join...

31/69,K/24 (Item 24 from file: 350)

DIALOG(R) File 350: Derwent WPIX

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0008127273 - Drawing available

WPI ACC NO: 1997-226709/ XRPX Acc No: N1997-187517

Relational database optimisation method for encoding/decoding tables

involves identifying hub table and generating best access plan for joining

hub table and associated spoke tables which are referenced in query and joining all table referenced in query statement

Patent Assignee: IBM CANADA LTD (IBMC); INT BUSINESS MACHINES CORP

(IBMC)

Inventor: LOHMAN G M; SCHIEFER B; URATA M S

Patent Family (3 patents, 2 countries)
Patent Application

Laccine								
Number		Kind	Date	Number	Kind	Date	Update	
CA 2168287		Α	19961001	CA 2168287	Α	19960129	199721	В
US 5930785	•	Α	19990727	US 1995414835	Α	19950331	199936	Ε
				US 1997950674	Α	19971016		
CA 2168287	•	C	20000523	CA 2168287	Α	19960129	200039	E

Priority Applications (no., kind, date): US 1997950674 A 19971016; US 1995414835 A 19950331

## Patent Details

ratent betairs						
Number	Kind	Lan	Pg	Dwg	Filing Notes	
CA 2168287	Α	EN	31	8		
US 5930785	Α	EN			Continuation of application	US
1995414835						
CA 2168287	С	EN				

## Alerting Abstract CA A

The relational database management method involves determining whether tables referenced in a query include a hub table (T0) and at least

two encoding tables or spoke tables (T1-T4). This involves counting the number of tables which are joined to each **table** in memory by **join** predicates and storing the identity of the table with the largest number of

tables joined to it.

When a hub table is identified a best access plan is constructed for joining the hub table and associated spoke tables. A plan for joining all

tables reference in the query statement is generated. All of the plans are

enumerated to **determine** the best plan for joining the tables reference in

the query statement.

USE/ADVANTAGE - Optimises queries in relational databases which reference encoding/decoding tables.

Title Terms/Index Terms/Additional Words: RELATED; DATABASE; OPTIMUM; METHOD; ENCODE; DECODE; TABLE; IDENTIFY; HUB; GENERATE; ACCESS; PLAN;

JOIN; ASSOCIATE; SPOKE; REFERENCE; QUERY; STATEMENT

## Class Codes

International Classification (Main): G06F-017/30

File Segment: EPI; DWPI Class: T01

Manual Codes (EPI/S-X): T01-J05B4B; T01-J05B4M; T01-S01B

Relational database optimisation method for encoding/decoding tables...

Alerting Abstract ... The relational database management method involves

determining whether tables referenced in a query include a hub table
(TO)

and at least two...

...tables (T1-T4). This involves counting the number of tables which are joined to each table in memory by join predicates and storing the identity of the table with the largest number of tables joined...

...tables reference in the query statement is generated. All of the plans are enumerated to **determine** the best plan for joining the tables reference in the query statement...

... USE/ADVANTAGE - Optimises queries in relational databases which reference encoding/decoding tables.

Title Terms.../Index Terms/Additional Words: DATABASE;

Original Publication Data by Authority

# Original Abstracts:

A join optimizer and method for a relational database management system including a data processor, a stored database, and a plurality

including a data processor, a stored database, and a plurality of database relations, wherein one or more of the relations are retrieved by

the processor by means...

...products as late in the join sequence as possible, the method includes the steps of **determining**, in association with the execution of, or preferably prior to executing the general purpose algorithm...

...and, when the query command references a hub table and at least two encoding tables, **determining** the best access plan for the hub table, **determining** whether the best access plan utilizes an index used to access

the hub table and, if so, constructing a plan to join the encoding tables as Cartesian products, constructing a plan to join the hub table

and the encoding tables and storing the plans in the data structures

of

the optimizer...

Claims:

In a relational database management system including a data processor

, a stored database , and a plurality of database relations stored in

the form of tables, wherein one or more of said relations are...

...third tables, and further including a join predicate between relations of the first and second **tables** and a **join** predicate between

relations

of the first and third tables, but not including a join predicate...

...an optimizing module for use in optimizing query commands, the optimizing module comprising:means for **determining** that the first table

referenced in the query statement is a hub table, and for **determining** that the second and third tables are spoke tables associated with the hub

table because...

...referenced in said query statement; andmeans for enumerating the first,

second, and third plans to determine the best plan for joining said tables referenced in said query statement.

31/69,K/25 (Item 25 from file: 350)

DIALOG(R) File 350: Derwent WPIX

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0007255993 - Drawing available

WPI ACC NO: 1995-310325/ XRPX Acc No: N1995-234268

Relational data base contg number of tables qualification performing -

establishing range variable processing order, which resolves processing ambiguities both in ordering range variables and eliminates false roots

Patent Assignee: HUGHES AIRCRAFT CO (HUGA)

Inventor: DEPREZ D

Number Kind Date Number Kind Date Update
US 5423035 A 19950606 US 1992996305 A 19921223 199540 B

Priority Applications (no., kind, date): US 1992996305 A 19921223

#### Patent Details

Number Kind Lan Pg Dwg Filing Notes US 5423035 A EN 13 5

## Alerting Abstract US A

The method involves establishing a user query as to a set of tables. followed by reducing the user query into component joins in the form of f(A) join f(B), or constant join f(A), wherein f(A) represents a function

upon the fields of a table A and f(B) represents a function upon the fields

of a table B.

The method also entails establishing a processing order for the tables.

which is selected so as to be consistent with that required by any outer-joins in the user query, e.g. the first in order table comprises

root. Further it includes evaluating each component join to produce respective pointer table indexes.

USE/ADVANTAGE - In computerised relational data base. Speed up qualification processing of data base that eliminates needs for user

defined index.

Title Terms/Index Terms/Additional Words: RELATED; DATA; BASE; CONTAIN; NUMBER; TABLE; QUALIFY; PERFORMANCE; ESTABLISH; RANGE; VARIABLE; PROCESS;

ORDER; RESOLUTION; AMBIGUOUS; ELIMINATE; FALSE; ROOT

## Class Codes

International Classification (Main): G06F-017/30

File Segment: EPI; DWPI Class: T01

Manual Codes (EPI/S-X): T01-J05B3; T01-S

Relational data base contg number of tables qualification performing...

## Original Titles:

Method for evaluating relational database queries with automatic indexing and ordering of join components

Alerting Abstract ... USE/ADVANTAGE - In computerised relational data base . Speed up qualification processing of data base that eliminates needs for user defined index.

#### Original Publication Data by Authority

## Original Abstracts:

A computer-implemented method that speeds up relational database qualification processing by emulating the function of a multiple dimension

index, including constant expressions and...

#### Claims:

A computer implemented method for performing relational database qualifications on a database comprising a plurality of tables, each table

including fields and tuples, the method comprising the...

...in a child table and wherein one or more indexes that point to a particular table comprise a join vector for that table; (E) ordering

the join vectors in same order as the processing order on the basis of

the associated tables...

...as a pointer to a current tuple of the associated table and will assume values determined by (a) processing of the join vector for the associated table if the associated table...

 $\ldots$  the associated table if the associated table is not referenced by a join

vector; (G) determining range variable values as follows: (a) for a table referenced by a join vector, successively evaluating the associated join vector for each table in the processing order to determine an associated range variable value, wherein evaluation of a join

vector comprises **determining** a set of pointers currently pointed to by

each index in the joint vector and taking an intersection or union of each

set of pointers as **determined** by the relationships of component joins corresponding to the indexes in the joint vector; (b...

...result each time the range variable of the last table in the processing order is determined in step (G).

(Item 26 from file: 350) 31/69,K/26

DIALOG(R) File 350: Derwent WPIX

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0006276092 - Drawing available WPI ACC NO: 1993-068935/199309

XRPX Acc No: N1993-052911

processing system for execution of outer join operations responds to values in selected set of columns of outer table, to determine

number of responsible regions of inner table

Patent Assignee: INT BUSINESS MACHINES CORP (IBMC) Inventor: CHENG J; CHENG J M; MOHAN C; PIRAHESH M H

Patent Family (4 patents, 3 countries)

Patent ramity	(4 Pac	siles, s c	ounce,				
Patent			Application				
Number	Kind	Date	Number	Kind	Date	Update	
EP 529916	A2	19930303	EP 1992307535	Α	19920818	199309	В
	A3	19931020	EP 1992307535	A	19920818	199510	Ε
EP 529916		19960827	US 1991749088	A	19910823	199640	E
US 5551031	. A	19960827	US 1994325942	A	19941019		
		,		•-	19950607		
			US 1995487300	A		100610	_
US 5557791	Α	19960917	US 1991749088	Α	19910823	199643	E
• • • • • • • •			US 1994325942	Α	19941019		

Priority Applications (no., kind, date): US 1995487300 A 19950607; US 1994325942 A 19941019; US 1991749088 A 19910823

## Patent Details

Filing Notes Dwg Kind Lan Рg Number 24 EP 529916 A2 EN

Regional Designated States, Original: DE FR GB

Α3 EN EP 529916

10 Continuation of application US 26 EN US 5551031 Α 1991749088

Division of application US

1994325942

10 Continuation of application US EN 27 US 5557791 1991749088

# Alerting Abstract EP A2

The system has a device for storing tables consisting of a number of tuples having multiple columns. An outer join operation is perferred on

such tables, one table being an inner table and the other an outer. The outer table is ordered or indexed in a sorted sequence on a selected set of columns.

A device, responsive to values in the selected set of columns,

a number of responsibility regions in the inner table such that every tuple in the inner table belongs to one and only one region. The tuples of

the inner table are processed in each responsibility region by outputting

all tuples which belong to the region.

ADVANTAGE - Is capable of outputting all tuples of inner table in output of join operation without requiring sorting of inner table.

Title Terms/Index Terms/Additional Words: DATA; PROCESS; SYSTEM; EXECUTE;

OUTER; JOIN; OPERATE; RESPOND; VALUE; SELECT; SET; COLUMN; TABLE; DETERMINE; NUMBER; RESPONSIBLE; REGION; INNER

#### Class Codes

International Classification (Main): G06F-015/40, G06F-017/30

File Segment: EPI; DWPI Class: T01

Manual Codes (EPI/S-X): T01-J05B4

Data processing system for execution of outer join operations...

...responds to values in selected set of columns of outer table, to determine number of responsible regions of inner table

## Original Titles:

 $\dots$ product for outer join operations using responsibility regions assigned to inner tables in a relational database .

. . .

 $\dots$ Outer join operations using responsibility regions assigned to inner tables in a relational database .

Alerting Abstract ...A device, responsive to values in the selected set of columns, determine a number of responsibility regions in the inner table such that every tuple in the...

...ADVANTAGE - Is capable of outputting all tuples of inner table in output of join operation without requiring sorting of inner table.

Title Terms.../Index Terms/Additional Words: DETERMINE;

Original Publication Data by Authority

## Original Abstracts:

A data processing system and method are described for performing an outer join of database tables without sorting the inner table (T2).

The data processing system comprises: means for storing tables consisting of a plurality of tuples having multiple columns...

...means, responsive to values in the selected set of columns of the outer

table, for **determining** a plurality of responsibility regions in the inner

table such that every tuple in the...

...A computer database system utilizes a method for performing a right

outer join of database tables without sorting the inner table (T2).
The processing of each tuple in the outer table...

...A computer database system utilizes a method for performing a right outer join of database tables without sorting the inner table (T2).

The processing of each tuple in the outer table... Claims:

- 1. A data processing system comprising: /br means for storing tables consisting of a plurality of tuples having multiple columns...
- ...means, responsive to values in the selected set of columns of the outer table, for **determining** a plurality of responsibility regions in the inner table such that every tuple in the...
- ...perform method steps for performing a right outer join with specified join predicates in a database system having an inner table and an outer table, each of which tables is composed...
- ...indexed in a sorted sequence on a selected set of columns, said method steps comprising: /br determining a plurality of responsibility regions in the inner table using a selected set of columns...
- ...An improved method of performing a fight outer join with specified join predicates in a **computerized** database system having an inner table and an outer table, each of which tables is...
- ...a sorted sequence on a selected set of columns, the improvement comprising the steps of:  $\mbox{/br}$  (  $\mbox{a}$  ) determining a plurality of responsibility regions in the inner table using a selected set of...

(Item 1 from file: 350) 35/69,K/1

DIALOG(R)File 350:Derwent WPIX

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0014824247 - Drawing available

WPI ACC NO: 2005-171937/

Related WPI Acc No: 2004-624649; 2004-675766; 2004-675775; 2004-675776;

2004-688879; 2004-689370 XRPX Acc No: N2005-143507

Distributed database processing method for e.g. business

applications, involves configuring cluster of computers with ability to

programmatically communicate with each other through electrical or optical connection

Patent Assignee: JARDIN C A (JARD-I)

Inventor: JARDIN C A

Patent Family (1 patents, 1 countries)

Application Patent

Update Date Kind Number Date Kind Number A 20030116 200518 Al 20050210 US 2003345811 US 20050033818

Priority Applications (no., kind, date): US 2003345811 A 20030116

# Patent Details

Pg Dwg Filing Notes Kind Lan Number 6 US 20050033818 A1 EN

Alerting Abstract US A1

NOVELTY - A cluster of computers is defined as a group of computers

the ability to programmatically communicate with each other through electrical or optical connection. Each computer in the cluster is configured with the database server.

USE - For processing distributed database in clustered computing environment for e.g. business applications.

ADVANTAGE - Increases the database performance by distributing database load across a group, or cluster of computers.

DESCRIPTION OF DRAWINGS - The figure shows the flowchart illustrating process of system for database request handling with load distribution of

the database request to cluster of computers.

# Technology Focus

INDUSTRIAL STANDARDS - The cluster of computers is created using an ~Ethernet~ network.

Title Terms/Index Terms/Additional Words: DISTRIBUTE; DATABASE; PROCESS;

METHOD; BUSINESS; APPLY; CLUSTER; COMPUTER; ABILITY; COMMUNICATE; THROUGH

; ELECTRIC; OPTICAL; CONNECT

## Class Codes

International Classification (Main): G06F-015/167

(Additional/Secondary): G06F-015/16, G06F-017/30, G06F-007/00

File Segment: EPI;

DWPI Class: T01

Manual Codes (EPI/S-X): T01-J05B4A; T01-M02A; T01-N02B1A

Distributed database processing method for e.g. business applications,

involves configuring cluster of computers with ability to...

Original Titles:

System and method for distributed database processing in a clustered environment

Inventor: JARDIN C A

Alerting Abstract ...other through electrical or optical connection. computer in the cluster is configured with the database server.USE processing distributed database in clustered computing environment for e.g. business applications...

... ADVANTAGE - Increases the database performance by distributing database load across a group, or cluster of computers...

...DESCRIPTION OF DRAWINGS - The figure shows the flowchart illustrating process of system for database request handling with load distribution of the database request to cluster of computers.

Title Terms.../Index Terms/Additional Words: DATABASE ;

# Original Publication Data by Authority

Inventor name & address:

Jardin, Cary Anthony ...

Original Abstracts:

The present invention provides a system for distributing database processing across a loosely coupled hardware platform, or a computer cluster. The system divides the data held within the database across all

available resources, and then submits the database queries in parallel to

all points of data storage. Once all resources have received and processed

the database query, the results are sent back to a single point for final

reassembly.

Claims:

b 1 /b . A method for distributed database What is claimed is: processing in a clustered computing environment comprising: a) a computer

cluster defined as a group...

...ability to programmatically communicate with one another via

or optical connection; and b) a database server on each computer in cluster.

(Item 2 from file: 350) 35/69,K/2

DIALOG(R)File 350:Derwent WPIX

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0014434216 - Drawing available

WPI ACC NO: 2004-624649/200460

Related WPI Acc No: 2004-675766; 2004-675775; 2004-675776; 2004-688879;

2004-689370; 2005-171937 XRPX Acc No: N2004-493996

Database performance accelerating method for use in business,

involves

determining whether request is local or remote request and forwarding request to remote slave system for retrieval if it is remote request

Patent Assignee: JARDIN C A (JARD-I)

Inventor: JARDIN C A

Patent Family (1 patents, 1 countries) Application

Patent Update Kind Date Number Date Kind Number 200460 B Al 20040812 US 2003345504 · A 20030116 US 20040158550

Priority Applications (no., kind, date): US 2003345504 A 20030116

## Patent Details

Pg Dwg Filing Notes Kind Lan Number

US 20040158550 A1

Alerting Abstract US A1

NOVELTY - The method involves determining whether a database

received by a master database system is an information retrieval request

or storage request. The request is determined to be a local or remote request. The master database behavior is invoked to retrieve the requested information if the request is a local request. The request is forwarded to a remote slave system for retrieval if the request is a remote

request.

USE - Used for accelerating database performance in a business. ADVANTAGE - The method allows the existing database applications to delegate costly transactions to the main memory database system while maintaining persistent and coherent storage on the existing database, thereby providing increased information retrieval speed.

DESCRIPTION OF DRAWINGS - DESCRIPTION OF DRAWING - The drawing shows

block diagram of a database request handling system to accomplish database acceleration.

Title Terms/Index Terms/Additional Words: DATABASE; PERFORMANCE; ACCELERATE; METHOD; BUSINESS; DETERMINE; REQUEST; LOCAL; REMOTE; FORWARDING; SLAVE; SYSTEM; RETRIEVAL

International Classification (Main): G06F-017/30

File Segment: EPI; DWPI Class: T01

Manual Codes (EPI/S-X): T01-J05B4A; T01-N03A2

Database performance accelerating method for use in business, involves determining whether request is local or remote...

Original Titles:

System and method for cooperate database acceleration Inventor: JARDIN C A

Alerting Abstract ... NOVELTY - The method involves determining database request received by a master database system is an information retrieval request or storage request. The request is determined to be a local or remote request. The master database behavior is invoked to retrieve the requested information if the request is a local request... USE - Used for accelerating database performance in a business...

... ADVANTAGE - The method allows the existing database applications delegate costly transactions to the main memory database system while maintaining persistent and coherent storage on the existing database, thereby providing increased information retrieval speed...

...DESCRIPTION OF DRAWINGS - DESCRIPTION OF DRAWING - The drawing shows block diagram of a database request handling system to accomplish database acceleration.

Title Terms/Index Terms/Additional Words: DATABASE;

Original Publication Data by Authority

Inventor name & address:

Jardin, Cary Anthony ...

Original Abstracts:

The present invention provides a system to allow existing database applications to delegate costly transactions to a main memory database system while maintaining persistent and coherent storage on the existing

database . The system utilizes database heterogeneous transaction

to delegate desired transaction without modification of existing database

application logic. Persistency is maintained on the host database by replicating state change operations onto the associated main memory

In this way, the present invention provides the performance of a main memory database system, with the required persistency of existing database technologies.

Claims:

What is claimed is: b 1 /b . A method for cooperative database performance comprising:a) database system with heterogeneous query support (master); andb) main memory database system (slave).

(Item 3 from file: 350) 35/69,K/3

DIALOG(R)File 350:Derwent WPIX

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0013733217 - Drawing available

WPI ACC NO: 2003-831305/ XRPX Acc No: N2003-664280

Database transactions translation method in electronic commerce,

involves

intercepting network packet having database transaction, for

translation

to desired vendor-specific form

Patent Assignee: JARDIN C A (JARD-I)

Inventor: JARDIN C A

Patent Family (1 patents, 1 countries)

Application Patent Update Date Kind Number Date Kind Number 200377 B A 20020327 Al 20031002 US 2002108782 US 20030187816

Priority Applications (no., kind, date): US 2002108782 A 20020327

Patent Details

Pg Dwg Filing Notes Kind Lan Number 12 A1 EN US 20030187816

Alerting Abstract US A1

NOVELTY - A network packet having database transaction, is selectively

intercepted. The database transaction is translated to a desired vendor-specific form, and the source and destination addresses of a

created packet are selectively masked, based on the nature of the database

transaction.

DESCRIPTION - INDEPENDENT CLAIMS are included for the following:

- 1. database translating system; and
- 2.database transactions translating system.

USE - For translating database transactions to desired vendor specific

form in electronic commerce and real-time information retrieval applications.

ADVANTAGE - Enables translating and analyzing the database transactions, effectively. The newly created packet is transparent to other

devices in the network, as the source and destination addresses of the newly created packet are selectively masked.

DESCRIPTION OF DRAWINGS - The figure shows a flow chart explaining the

database transactions translation process.

Title Terms/Index Terms/Additional Words: DATABASE; TRANSACTION; TRANSLATION; METHOD; ELECTRONIC; INTERCEPT; NETWORK; PACKET; VENDING; SPECIFIC; FORM

Class Codes

International Classification (Main): G06F-007/00

File Segment: EPI; DWPI Class: T01

Manual Codes (EPI/S-X): T01-J05B4P; T01-N01A2A

Database transactions translation method in electronic commerce, involves intercepting network packet having database transaction, for translation to desired vendor-specific form

Original Titles:

System and method for transparent database conversion Inventor: JARDIN C A

Alerting Abstract ... NOVELTY - A network packet having database transaction, is selectively intercepted. The database transaction is translated to a desired vendor-specific form, and the source and destination addresses of a newly created packet are selectively masked, based on the nature of the database transaction.... database translating

system; anddatabase transactions translating system...
...USE - For translating database transactions to desired vendor specific

form in electronic commerce and real-time information retrieval...

...ADVANTAGE - Enables translating and analyzing the database transactions, effectively. The newly created packet is transparent to other devices in the network...

...DESCRIPTION OF DRAWINGS - The figure shows a flow chart explaining the database transactions translation process.

Title Terms/Index Terms/Additional Words: DATABASE;

Original Publication Data by Authority

Inventor name & address:

Jardin, Cary A ...

Original Abstracts:

A method and system for accomplishing transparent database translation.

The architecture determines from the nature of a packet on a network the

whether the packet is a database transaction. If the packet is a database transaction, it is suitably intercepted for further analysis. The

packet is then suitably converted into ...

...form different than the form of the intercepted packet and sent to a target vendor database server. When the new packet is created for transmission to the target database server, it is created such that

it
appears to the devices on the network as...
Claims:

What is claimed is: b 1 /b . A method of translating database transactions to a desired vendor-specific form comprising the steps of:determining whether a first network packet involves a database transaction; selectively intercepting the first network packet upon determining that the network packet involves a database transaction; determining the nature of the database transaction; selectively translating the database transaction to a desired

vendor-specific form based upon the determined nature of the database transaction; creating a second network packet; and selectively masking at least one of the source and destination addresses of the second network packet based upon the nature of the database transaction.

(Item 4 from file: 350) 35/69,K/4 DIALOG(R).File 350:Derwent WPIX

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0013513399 - Drawing available

WPI ACC NO: 2003-606238/ XRPX Acc No: N2003-483288

Database transactions accelerating method, involves determination of database transaction and its kind in one network packet and application of

database acceleration technique to form another network packet

Patent Assignee: JARDIN C A (JARD-I); NEXTGIG INC (NEXT-N)

Inventor: JARDIN C ; JARDIN C A

Patent Family (3 patents, 99 countries)

Application Patent Update Kind Date Number Date Kind Number A 20011109 200357 20030515 US 200139465 US 20030093566 A1 A 20021021 200357 WO 2002US33806 20030522 A1 WO 2003042833 A 20021021 200464 20030526 AU 2002335120 A1 AU 2002335120

Priority Applications (no., kind, date): US 200139465 A 20011109

#### Patent Details

Dwq Filing Notes Pg Kind Lan Number

5 US 20030093566 11 Α1 ΕN

WO 2003042833 **A**1

National Designated States, Original: AE AG AL AM AT AU AZ BA BB BG BR

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Regional Designated States, Original: AT BE BG CH CY CZ DE DK EA EE ES

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ZM ZW

AU 2002335120 Al EN

WO 2003042833 Based on OPI patent

7

# Alerting Abstract US A1

NOVELTY - The method involves determining whether there is a

## database

transaction in a network packet. The packet is cut off if the result is positive and then its kind is also determined. A database acceleration

technique is selectively put into practice based on above determination.

Another network packet is formed with one of its source and destination address being selectively masked based on nature of the transaction.

DESCRIPTION - An INDEPENDENT CLAIM is also included for system for improving network database performance.

USE - Used for network-based database acceleration.

ADVANTAGE - The method improves the database acceleration and

increased

database performance that is transparent to database applications.

method is thus compatible with various database application software

well as existing general-purpose and server hardware.

DESCRIPTION OF DRAWINGS - The drawing shows a flow chart representation

of a method for accelerating database transactions associated with packets intercepted from a client machine.

Title Terms/Index Terms/Additional Words: DATABASE; TRANSACTION; ACCELERATE; METHOD; DETERMINE; KIND; ONE; NETWORK; PACKET; APPLY; TECHNIQUE; FORM

#### Class Codes

International Classification (Main): G06F-012/00, G06F-015/16 (Additional/Secondary): G06F-015/04

File Segment: EPI; DWPI Class: T01; W01

Manual Codes (EPI/S-X): T01-J05B3; T01-J05B4P; T01-N02A1; W01-A03B;

W01-A06E; W01-A06G2

Database transactions accelerating method, involves determination of database transaction and its kind in one network packet and application of

database acceleration technique to form another network packet

# Original Titles:

SYSTEM AND METHOD FOR NETWORK AND APPLICATION TRANSPARENT DATABASE ACCELERATION...

...System and method for network and application transparent database acceleration...

...SYSTEM AND METHOD FOR NETWORK AND APPLICATION TRANSPARENT DATABASE ACCELERATION...

Inventor: JARDIN C ...

# ... JARDIN C A

Alerting Abstract ... NOVELTY - The method involves determining whether

there is a database transaction in a network packet. The packet is cut

off if the result is positive and then its kind is also determined. A database acceleration technique is selectively put into practice based

above determination. Another network packet is... DESCRIPTION - An INDEPENDENT CLAIM is also included for system for improving network database performance...

... USE - Used for network-based database acceleration...

... ADVANTAGE - The method improves the database acceleration and increased database performance that is transparent to database

applications. The method is thus compatible with various database application software as well as existing general-purpose and server hardware...

...DESCRIPTION OF DRAWINGS - The drawing shows a flow chart representation of a method for accelerating database transactions associated with packets intercepted from a client machine.

Title Terms/Index Terms/Additional Words: DATABASE;

Original Publication Data by Authority

Inventor name & address: JARDIN C ... ... Jardin, Cary A ...

# ... JARDIN, Cary

# Original Abstracts:

A method and system for accomplishing transparent network database acceleration. The architecture determines from the nature of a packet

network the whether the packet is a database transaction. If the packet

is a database transaction, it is suitably intercepted for further analysis. Database acceleration techniques are then suitably implemented

based on the type of database transaction. A new packet is then created

such that it appears to the devices on...

- ... A method of improving network database performance is disclosed
- 1). The method comprises steps of determining whether a first network packet involves a database transaction (14) and then intercepting the packet upon a positive determination. The packet is then examined to determine the nature of the database transaction (18). Depending on

nature of the database transaction, a database acceleration technique

is selectively implemented (22...

### Claims:

b 1 /b . A method of improving network What is claimed is: database

performance comprising the steps of: a) determining whether a first network packet involves a database transaction; b) intercepting the

network packet upon a positive determination in step a); c) determining

nature of the database transaction; d) selectively implementing a database acceleration technique based upon the determination in step

e) creating a second network packet...

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Discussion Forum	20060129609	A	Database synchronization using change log	30∙					
	20060122993	A	Abstract query plan	6-1					
	20060106766	A	Method, system and program product for rewriting structured query language (SQL) statements	12-					
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Fast detection of communication patterns in distributed executions

Thomas Kunz, Michiel F. H. Seuren

November 1997 Proceedings of the 1997 conference of the Centre for Advanced Studies on Collaborative research

Publisher: IBM Press

Full text available: pdf(4.21 MB)

Additional Information: full citation, abstract, references, index terms

Understanding distributed applications is a tedious and difficult task. Visualizations based on process-time diagrams are often used to obtain a better understanding of the execution of the application. The visualization tool we use is Poet, an event tracer developed at the University of Waterloo. However, these diagrams are often very complex and do not provide the user with the desired overview of the application. In our experience, such tools display repeated occurrences of non-trivial commun ...

2 Link and channel measurement: A simple mechanism for capturing and replaying



wireless channels

Glenn Judd, Peter Steenkiste

August 2005 Proceeding of the 2005 ACM SIGCOMM workshop on Experimental approaches to wireless network design and analysis E-WIND '05

Publisher: ACM Press

Full text available: pdf(6.06 MB)

Additional Information: full citation, abstract, references, index terms

Physical layer wireless network emulation has the potential to be a powerful experimental tool. An important challenge in physical emulation, and traditional simulation, is to accurately model the wireless channel. In this paper we examine the possibility of using on-card signal strength measurements to capture wireless channel traces. A key advantage of this approach is the simplicity and ubiquity with which these measurements can be obtained since virtually all wireless devices provide the req ...

Keywords: channel capture, emulation, wireless

3 GPGPU: general purpose computation on graphics hardware

David Luebke, Mark Harris, Jens Krüger, Tim Purcell, Naga Govindaraju, Ian Buck, Cliff Woolley, Aaron Lefohn

August 2004 Proceedings of the conference on SIGGRAPH 2004 course notes SIGGRAPH '04



**Publisher: ACM Press** 

Full text available: Ddf(63.03 MB) Additional Information: full citation, abstract

The graphics processor (GPU) on today's commodity video cards has evolved into an extremely powerful and flexible processor. The latest graphics architectures provide tremendous memory bandwidth and computational horsepower, with fully programmable vertex and pixel processing units that support vector operations up to full IEEE floating point precision. High level languages have emerged for graphics hardware, making this computational power accessible. Architecturally, GPUs are highly parallel s ...

4 Collision detection and proximity queries

Sunil Hadap, Dave Eberle, Pascal Volino, Ming C. Lin, Stephane Redon, Christer Ericson August 2004 Proceedings of the conference on SIGGRAPH 2004 course notes SIGGRAPH '04

Publisher: ACM Press

Full text available: pdf(11.22 MB) Additional Information: full citation, abstract

This course will primarily cover widely accepted and proved methodologies in collision detection. In addition more advanced or recent topics such as continuous collision detection, ADFs, and using graphics hardware will be introduced. When appropriate the methods discussed will be tied to familiar applications such as rigid body and cloth simulation, and will be compared. The course is a good overview for those developing applications in physically based modeling, VR, haptics, and robotics.

5 Human-computer interface development: concepts and systems for its management



H. Rex Hartson, Deborah Hix

March 1989 ACM Computing Surveys (CSUR), Volume 21 Issue 1

Publisher: ACM Press

Additional Information: full citation, abstract, references, citings, index Full text available: pdf(7.97 MB) terms, review

Human-computer interface management, from a computer science viewpoint, focuses on the process of developing quality human-computer interfaces, including their representation, design, implementation, execution, evaluation, and maintenance. This survey presents important concepts of interface management: dialogue independence, structural modeling, representation, interactive tools, rapid prototyping, development methodologies, and control structures. Dialogue independence is th ...

6 Level set and PDE methods for computer graphics

David Breen, Ron Fedkiw, Ken Museth, Stanley Osher, Guillermo Sapiro, Ross Whitaker August 2004 Proceedings of the conference on SIGGRAPH 2004 course notes SIGGRAPH '04

Publisher: ACM Press

Full text available: pdf(17.07 MB) Additional Information: full citation, abstract, citings

Level set methods, an important class of partial differential equation (PDE) methods, define dynamic surfaces implicitly as the level set (iso-surface) of a sampled, evolving nD function. The course begins with preparatory material that introduces the concept of using partial differential equations to solve problems in computer graphics, geometric modeling and computer vision. This will include the structure and behavior of several different types of differential equations, e.g. the level set eg ...

The elements of nature: interactive and realistic techniques

Oliver Deusen, David S. Ebert, Ron Fedkiw, F. Kenton Musgrave, Przemyslaw Prusinkiewicz, Doug Roble, Jos Stam, Jerry Tessendorf

August 2004 Proceedings of the conference on SIGGRAPH 2004 course notes SIGGRAPH '04

Publisher: ACM Press

Full text available: 1 pdf(17.65 MB) Additional Information: full citation, abstract

This updated course on simulating natural phenomena will cover the latest research and production techniques for simulating most of the elements of nature. The presenters will provide movie production, interactive simulation, and research perspectives on the difficult task of photorealistic modeling, rendering, and animation of natural phenomena. The course offers a nice balance of the latest interactive graphics hardware-based simulation techniques and the latest physics-based simulation techni ...

8 Industrial sessions: beyond relational tables: Garlic: a new flavor of federated query



processing for DB2

Vanja Josifovski, Peter Schwarz, Laura Haas, Eileen Lin

June 2002 Proceedings of the 2002 ACM SIGMOD international conference on Management of data SIGMOD '02

Publisher: ACM Press

Full text available: pdf(1.05 MB)

Additional Information: full citation, abstract, references, citings, index terms

In a large modern enterprise, information is almost inevitably distributed among several database management systems. Despite considerable attention from the research community, relatively few commercial systems have attempted to address this issue. This paper describes new technology that enables clients of IBM's DB2 Universal Database to access the data and specialized computational capabilities of a wide range of nonrelational data sources. This technology, based on the Garlic prototype deve ...

9 Parallelism in relational data base systems: architectural issues and design



approaches

Hamid Pirahesh, C. Mohan, Josephine Cheng, T. S. Liu, Pat Selinger

July 1990 Proceedings of the second international symposium on Databases in parallel and distributed systems

Publisher: ACM Press

Full text available: pdf(2.50 MB)

Additional Information: full citation, abstract, references, citings, index

With current systems, some important complex queries may take days to complete because of: (1) the volume of data to be processed, (2) limited aggregate resources. Introducing parallelism addresses the first problem. Cheaper, but powerful computing resources solve the second problem. According to a survey by Brodie, 1 only 10% of computerized data is in data bases. This is an argument for both more variety and volume of data to be moved into data base systems. We conject ...

10 A Survey of Some Theoretical Aspects of Multiprocessing



J. L. Baer

March 1973 ACM Computing Surveys (CSUR), Volume 5 Issue 1

Publisher: ACM Press

Full text available: pdf(4.05 MB) Additional Information: full citation, references, citings, index terms

11 Speeding up construction of PMR quadtree-based spatial indexes

Gisli R. Hjaltason, Hanan Samet

October 2002 The VLDB Journal — The International Journal on Very Large Data Bases, Volume 11 Issue 2

Publisher: Springer-Verlag New York, Inc.

Full text available: pdf(355.72 KB) Additional Information: full citation, abstract, citings, index terms

Spatial indexes, such as those based on the quadtree, are important in spatial databases for efficient execution of queries involving spatial constraints, especially when the queries involve spatial joins. In this paper we present a number of techniques for speeding up the construction of quadtree-based spatial indexes, specifically the PMR quadtree, which can index arbitrary spatial data. We assume a quadtree implementation using the "linear quadtree", a disk-resident representation ...

Keywords: Bulk-loading, I/O, Spatial indexing

12 Pen computing: a technology overview and a vision

André Meyer

July 1995 ACM SIGCHI Bulletin, Volume 27 Issue 3

Publisher: ACM Press

Full text available: pdf(5.14 MB) Additional Information: full citation, abstract, citings, index terms

This work gives an overview of a new technology that is attracting growing interest in public as well as in the computer industry itself. The visible difference from other technologies is in the use of a pen or pencil as the primary means of interaction between a user and a machine, picking up the familiar pen and paper interface metaphor. From this follows a set of consequences that will be analyzed and put into context with other emerging technologies and visions. Starting with a short historic ...

13 Abstraction-based intrusion detection in distributed environments

Peng Ning, Sushil Jajodia, Xiaoyang Sean Wang

November 2001 ACM Transactions on Information and System Security (TISSEC),

Volume 4 Issue 4

Publisher: ACM Press

Additional Information: full citation, abstract, references, citings, index Full text available: pdf(590.61 KB) terms, review

Abstraction is an important issue in intrusion detection, since it not only hides the difference between heterogeneous systems, but also allows generic intrusion-detection models. However, abstraction is an error-prone process and is not well supported in current intrusion-detection systems (IDSs). This article presents a hierarchical model to support attack specification and event abstraction in distributed intrusion detection. The model involves three concepts: system view, signature ...

Keywords: Cooperative information systems, heterogeneous systems, intrusion detection, misuse detection

14 Real-time shading

Marc Olano, Kurt Akeley, John C. Hart, Wolfgang Heidrich, Michael McCool, Jason L. Mitchell, Randi Rost

August 2004 Proceedings of the conference on SIGGRAPH 2004 course notes SIGGRAPH '04

Publisher: ACM Press

Full text available: pdf(7.39 MB) Additional Information: full citation, abstract

Real-time procedural shading was once seen as a distant dream. When the first version of this course was offered four years ago, real-time shading was possible, but only with oneof-a-kind hardware or by combining the effects of tens to hundreds of rendering passes. Today, almost every new computer comes with graphics hardware capable of interactively executing shaders of thousands to tens of thousands of instructions. This course has been redesigned to address today's real-time shading capabili ...

# 15 A robust protocol for parallel join operation in distributed data bases

S. Bandyopadhyay, A. Sengupta

January 2000 Proceedings of the first international symposium on Databases in parallel and distributed systems

**Publisher: IEEE Computer Society Press** 

Full text available: pdf(1.23 MB)

Additional Information: <u>full citation</u>, <u>abstract</u>, <u>references</u>, <u>citings</u>, <u>index</u> terms

Fault tolerant distributed databases use replicated data(e.g., record or relation) to handle failures of one or more nodes in a computer network. Efficient and economic access strategies for such data bases have not been investigated. In this paper, the binary hypercube, a popular model for fault tolerant interconnection networks, has been studied. It has been shown that, for a local area network based on a binary hypercube, having 2r nodes where every data is replicate ...

# 16 Technical reports

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**SIGACT News Staff** 

January 1980 ACM SIGACT News, Volume 12 Issue 1

Publisher: ACM Press

Full text available: pdf(5.28 MB) Ad

Additional Information: full citation

# 17 Real-time volume graphics



Klaus Engel, Markus Hadwiger, Joe M. Kniss, Aaron E. Lefohn, Christof Rezk Salama, Daniel Weiskopf

August 2004 Proceedings of the conference on SIGGRAPH 2004 course notes SIGGRAPH '04

Publisher: ACM Press

Full text available: pdf(7.63 MB)

Additional Information: full citation, abstract

The tremendous evolution of programmable graphics hardware has made high-quality real-time volume graphics a reality. In addition to the traditional application of rendering volume data in scientific visualization, the interest in applying these techniques for real-time rendering of atmospheric phenomena and participating media such as fire, smoke, and clouds is growing rapidly. This course covers both applications in scientific visualization, e.g., medical volume data, and real-time rendering, ...

# 18 Scaling up the semantic web: On labeling schemes for the semantic web



Vassilis Christophides, Dimitris Plexousakis, Michel Scholl, Sotirios Tourtounis May 2003 **Proceedings of the 12th international conference on World Wide Web** 

Publisher: ACM Press

Full text available: pdf(294.32 KB)

Additional Information: <u>full citation</u>, <u>abstract</u>, <u>references</u>, <u>citings</u>, <u>index</u> terms

This paper focuses on the optimization of the navigation through voluminous subsumption hierarchies of topics employed by Portal Catalogs like Netscape Open Directory (ODP). We advocate for the use of labeling schemes for modeling these hierarchies in order to efficiently answer queries such as subsumption check, descendants, ancestors or nearest common ancestor, which usually require costly transitive closure computations. We first give a qualitative comparison of three main families of schemes ...

# 19 Extensions to Starburst: objects, types, functions, and rules



Guy M. Lohman, Bruce Lindsay, Hamid Pirahesh, K. Bernhard Schiefer October 1991 **Communications of the ACM**, Volume 34 Issue 10

Publisher: ACM Press

Full text available: pdf(5.21 MB) Additional Information: full citation, references, citings, index terms

**Keywords**: Extended relational database management systems, Starburst, extensible database management systems

20 Interactive Editing Systems: Part II

Norman Meyrowitz, Andries van Dam

September 1982 ACM Computing Surveys (CSUR), Volume 14 Issue 3

**Publisher: ACM Press** 

Full text available: pdf(9.17 MB)

Additional Information: full citation, references, citings, index terms

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Research sessions: query processing I: A scalable hash ripple join algorithm

Gang Luo, Curt J. Ellmann, Peter J. Haas, Jeffrey F. Naughton

June 2002 Proceedings of the 2002 ACM SIGMOD international conference on Management of data SIGMOD '02

Publisher: ACM Press

Full text available: pdf(1.12 MB)

Additional Information: full citation, abstract, references, citings, index terms

Recently, Haas and Hellerstein proposed the hash ripple join algorithm in the context of online aggregation. Although the algorithm rapidly gives a good estimate for many joinaggregate problem instances, the convergence can be slow if the number of tuples that satisfy the join predicate is small or if there are many groups in the output. Furthermore, if memory overflows (for example, because the user allows the algorithm to run to completion for an exact answer), the algorithm degenerates to bl ...

Improving lookup latency in distributed hash table systems using random sampling Hui Zhang, Ashish Goel, Ramesh Govindan

October 2005 IEEE/ACM Transactions on Networking (TON), Volume 13 Issue 5

Publisher: IEEE Press

Full text available: Topdf(511.97 KB) Additional Information: full citation, abstract, references, index terms

Distributed hash table (DHT) systems are an important class of peer-to-peer routing infrastructures. They enable scalable wide-area storage and retrieval of information, and will support the rapid development of a wide variety of Internet-scale applications ranging from naming systems and file systems to application-layer multicast. DHT systems essentially build an overlay network, but a path on the overlay between any two nodes can be significantly different from the unicast path between those ...

Keywords: distributed hash table (DHT), internet topology, latency expansion, latency stretch, peer-to-peer, random sampling, randomized algorithm

3 Low traffic overlay networks with large routing tables

Chunqiang Tang, Melissa J. Buco, Rong N. Chang, Sandhya Dwarkadas, Laura Z. Luan, Edward So, Christopher Ward

June 2005 ACM SIGMETRICS Performance Evaluation Review, Proceedings of the 2005 ACM SIGMETRICS international conference on Measurement and modeling of computer systems SIGMETRICS '05, Volume 33 Issue 1

Publisher: ACM Press

Full text available: pdf(269.80 KB) Additional Information: full citation, abstract, references, index terms

The routing tables of Distributed Hash Tables (DHTs) can vary from size O(1) to O(n). Currently, what is lacking is an analytic framework to suggest the optimal routing table size for a given workload. This paper (1) compares DHTs with O(1) to O(n) routing tables and identifies some good design points; and (2) proposes protocols to realize the potential of those good design points. We use total traffic as the uniform metric to compare heterogeneous DHTs a ...

Keywords: distributed hash table, overlay network, peer-to-peer system

4 Avoiding Cartesian products for multiple joins

Shinichi Morishita

January 1997 Journal of the ACM (JACM), Volume 44 Issue 1

Publisher: ACM Press

Additional Information: full citation, abstract, references, index terms, Full text available: pdf(583.81 KB) review

Computing the natural join of a set of relations is an important operation in relational database systems. The ordering of joins determines to a large extent the computation time of the join. Since the number of possible orderings could be very large, query optimizers first reduce the search space by using various heuristics and then try to select an optimal ordering of joins. Avoiding Cartesian products is a common heuristic for reducing the search space, but it cannot guarantee optimal or ...

Keywords: Cartesian product, database scheme, join expression tree, join strategy, optimality, semijoin

5 Incrementally improving lookup latency in distributed hash table systems

Hui Zhang, Ashish Goel, Ramesh Govindan

June 2003 ACM SIGMETRICS Performance Evaluation Review, Proceedings of the 2003 ACM SIGMETRICS international conference on Measurement and modeling of computer systems SIGMETRICS '03, Volume 31 Issue 1

Publisher: ACM Press

Additional Information: <u>full citation</u>, abstract, references, citings, index Full text available: pdf(401.28 KB)

Distributed hash table (DHT) systems are an important class of peer-to-peer routing infrastructures. They enable scalable wide-area storage and retrieval of information, and will support the rapid development of a wide variety of Internet-scale applications ranging from naming systems and file systems to application-layer multicast. DHT systems essentially build an overlay network, but a path on the overlay between any two nodes can be significantly different from the unicast path between those ...

**Keywords:** DHT, latency stretch, peer-to-peer, random sampling

Research sessions: spatial data: Joining interval data in relational databases

Jost Enderle, Matthias Hampel, Thomas Seidl

June 2004 Proceedings of the 2004 ACM SIGMOD international conference on Management of data

Publisher: ACM Press

Full text available: pdf(552.80 KB) Additional Information: full citation, abstract, references

The increasing use of temporal and spatial data in present-day relational systems

necessitates an efficient support of joins on interval-valued attributes. Standard join algorithms do not support those data types adequately, whereas special approaches for interval joins usually require an augmentation of the internal access methods which is not supported by existing relational systems. To overcome these problems we introduce new join algorithms for interval data. Based on the Relational Interval ...

7 Efficient processing of spatial joins using R-trees



Thomas Brinkhoff, Hans-Peter Kriegel, Bernhard Seeger

June 1993 ACM SIGMOD Record, Proceedings of the 1993 ACM SIGMOD international conference on Management of data SIGMOD '93, Volume 22 Issue 2

Publisher: ACM Press

Full text available: pdf(1.48 MB)

Additional Information: full citation, abstract, references, citings, index terms

Spatial joins are one of the most important operations for combining spatial objects of several relations. The efficient processing of a spatial join is extremely important since its execution time is superlinear in the number of spatial objects of the participating relations, and this number of objects may be very high. In this paper, we present a first detailed study of spatial join processing using R-trees, particularly R\*-trees. R-trees are very suitable for supporting spatial queries a ...

8 Failure recovery for structured P2P networks: protocol design and performance



evaluation

Simon S. Lam, Huaiyu Liu

June 2004 ACM SIGMETRICS Performance Evaluation Review, Proceedings of the joint international conference on Measurement and modeling of computer systems SIGMETRICS '04/Performance '04, Volume 32 Issue 1

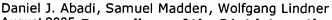
Publisher: ACM Press

Full text available: pdf(481.82 KB) Additional Information: full citation, abstract, references, index terms

Measurement studies indicate a high rate of node dynamics in p2p systems. In this paper, we address the question of how high a rate of node dynamics can be supported by structured p2p networks. We confine our study to the hypercube routing scheme used by several structured p2p systems. To improve system robustness and facilitate failure recovery, we introduce the property of K-consistency,  $K \ge 1$ , which generalizes consistency defined previously. (Consistency guarantees ...

**Keywords**: failure recovery, hypercube routing, k-consistency, peer-to-peer networks, sustainable churn rate

Research session: query optimization and summarization: REED: robust, efficient filtering and event detection in sensor networks



August 2005 Proceedings of the 31st international conference on Very large data bases VLDB '05

Publisher: VLDB Endowment

Full text available: pdf(286.61 KB) Additional Information: full citation, abstract, references, index terms

This paper presents a set of algorithms for efficiently evaluating join queries over static data tables in sensor networks. We describe and evaluate three algorithms that take advantage of distributed join techniques. Our algorithms are capable of running in limited amounts of RAM, can distribute the storage burden over groups of nodes, and are tolerant to dropped packets and node failures. REED is thus suitable for a wide range of eventdetection applications that traditional sensor network dat ...

10 Wireless ad hoc multicast routing with mobility prediction

Sung-Ju Lee, William Su, Mario Gerla

August 2001 Mobile Networks and Applications, Volume 6 Issue 4

Publisher: Kluwer Academic Publishers

Full text available: pdf(186.00 KB)

Additional Information: full citation, abstract, references, citings, index terms

An ad hoc wireless network is an infrastructureless network composed of mobile hosts. The primary concerns in ad hoc networks are bandwidth limitations and unpredictable topology changes. Thus, efficient utilization of routing packets and immediate recovery of route breaks are critical in routing and multicasting protocols. A multicast scheme, On-Demand Multicast Routing Protocol (ODMRP), has been recently proposed for mobile ad hoc networks. ODMRP is a reactive (on-demand) protocol that de ...

**Keywords**: ad hoc networks, mobile computing, mobility prediction, multicast and routing protocols

# 11 Mobility prediction and routing in ad hoc wireless networks

William Su, Sung-Ju Lee, Mario Gerla

January 2001 International Journal of Network Management, Volume 11 Issue 1

Publisher: John Wiley & Sons, Inc.

Full text available: pdf(405.80 KB)

Additional Information: full citation, abstract, references, citings, index terms

By exploiting non-random behaviors for the mobility patterns that mobile users exhibit, we can predict the future state of network topology and perform route reconstruction proactively in a timely manner. Moreover, by using the predicted information on the network topology, we can eliminate transmissions of control packets otherwise needed to reconstruct the route and thus reduce overhead. In this paper, we propose various schemes to improve routing protocol performances by using mobility p ...

# 12 On parallel execution of multiple pipelined hash joins

Hui-I Hsiao, Ming-Syan Chen, Philip S. Yu

May 1994 ACM SIGMOD Record, Proceedings of the 1994 ACM SIGMOD international conference on Management of data SIGMOD '94, Volume 23 Issue 2

**Publisher: ACM Press** 

Full text available: pdf(1.24 MB)

Additional Information: full citation, abstract, references, citings, index terms

In this paper we study parallel execution of multiple pipelined hash joins. Specifically, we deal with two issues, processor allocation and the use of hash filters, to improve parallel execution of hash joins. We first present a scheme to transform a bushy execution tree to an allocation tree, where each node denotes a pipeline. Then, processors are allocated to the nodes in the allocation tree based on the concept of synchronous execution time such that inner relations (i.e., hash tables) ...

# 13 Ad hoc multicast routing algorithm with swarm intelligence

Chien-Chung Shen, Chaiporn Jaikaeo

February 2005 Mobile Networks and Applications, Volume 10 Issue 1-2

Publisher: Kluwer Academic Publishers

Full text available: pdf(424.44 KB) Additional Information: full citation, abstract, references, index terms

Swarm intelligence refers to complex behaviors that arise from very simple individual behaviors and interactions, which is often observed in nature, especially among social insects such as ants. Although each individual (an ant) has little intelligence and simply follows basic rules using local information obtained from the environment, such as ant's pheromone trail laying and following behavior, globally optimized behaviors, such as





finding a shortest path, emerge when they work collectively as ...

**Keywords**: ad hoc networks, multicast routing, swarm intelligence

14 On zone-balancing of peer-to-peer networks: analysis of random node join



June 2004 ACM SIGMETRICS Performance Evaluation Review, Proceedings of the joint international conference on Measurement and modeling of computer systems SIGMETRICS '04/Performance '04, Volume 32 Issue 1

Publisher: ACM Press

Additional Information: <u>full citation</u>, <u>abstract</u>, <u>references</u>, <u>citings</u>, <u>index</u> Full text available: pdf(282.76 KB) terms

Balancing peer-to-peer graphs, including zone-size distributions, has recently become an important topic of peer-to-peer (P2P) research [1], [2], [6], [19], [31], [36]. To bring analytical understanding into the various peer-join mechanisms, we study how zonebalancing decisions made during the initial sampling of the peer space affect the resulting zone sizes and derive several asymptotic results for the maximum and minimum zone sizes that hold with high probability.

Keywords: balls-into-bins, load-balancing, modeling, peer-to-peer

15 Chord: A scalable peer-to-peer lookup service for internet applications

Ion Stoica, Robert Morris, David Karger, M. Frans Kaashoek, Hari Balakrishnan August 2001 ACM SIGCOMM Computer Communication Review, Proceedings of the 2001 conference on Applications, technologies, architectures, and protocols for computer communications SIGCOMM '01, Volume 31 Issue 4

Publisher: ACM Press

Additional Information: full citation, abstract, references, citings, index Full text available: pdf(205.73 KB) terms

A fundamental problem that confronts peer-to-peer applications is to efficiently locate the node that stores a particular data item. This paper presents Chord, a distributed lookup protocol that addresses this problem. Chord provides support for just one operation: given a key, it maps the key onto a node. Data location can be easily implemented on top of Chord by associating a key with each data item, and storing the key/data item pair at the node to which the key maps. Chord adapts effi ...

16 Reusing invariants: a new strategy for correlated queries

Jun Rao, Kenneth A. Ross

June 1998 ACM SIGMOD Record, Proceedings of the 1998 ACM SIGMOD international conference on Management of data SIGMOD '98, Volume 27 Issue 2

Publisher: ACM Press

Additional Information: full citation, abstract, references, citings, index Full text available: pdf(1.55 MB) terms

Correlated queries are very common and important in decision support systems. Traditional nested iteration evaluation methods for such queries can be very time consuming. When they apply, query rewriting techniques have been shown to be much more efficient. But query rewriting is not always possible. When query rewriting does not apply, can we do something better than the traditional nested iteration methods? In this paper, we propose a new invariant technique to evaluate correlated queries ...

Chord: a scalable peer-to-peer lookup protocol for internet applications Ion Stoica, Robert Morris, David Liben-Nowell, David R. Karger, M. Frans Kaashoek, Frank

17

Dabek, Hari Balakrishnan

February 2003 IEEE/ACM Transactions on Networking (TON), Volume 11 Issue 1

Publisher: IEEE Press

Full text available: pdf(690.54 KB)

Additional Information: full citation, abstract, references, citings, index

A fundamental problem that confronts peer-to-peer applications is the efficient location of the node that stores a desired data item. This paper presents Chord, a distributed lookup protocol that addresses this problem. Chord provides support for just one operation: given a key, it maps the key onto a node. Data location can be easily implemented on top of Chord by associating a key with each data item, and storing the key/data pair at the node to which the key maps. Chord adapts efficien ...

Keywords: distributed scalable algorithms, lookup protocols, peer-to-peer networks

18 Storing and querying XML data using denormalized relational databases

Andrey Balmin, Yannis Papakonstantinou

March 2005 The VLDB Journal — The International Journal on Very Large Data Bases,

Volume 14 Issue 1

Publisher: Springer-Verlag New York, Inc.

Full text available: pdf(397.97 KB) Additional Information: full citation, abstract

XML database systems emerge as a result of the acceptance of the XML data model. Recent works have followed the promising approach of building XML database management systems on underlying RDBMS's. Achieving query processing performance reduces to two questions: (i) How should the XML data be decomposed into data that are stored in the RDBMS? (ii) How should the XML query be translated into an efficient plan that sends one or more SQL queries to the underlying RDBMS and combines the data ...

19 Industrial sessions: big data: Automating physical database design in a parallel



Jun Rao, Chun Zhang, Nimrod Megiddo, Guy Lohman

June 2002 Proceedings of the 2002 ACM SIGMOD international conference on Management of data SIGMOD '02

Publisher: ACM Press

Full text available: pdf(1.38 MB)

Additional Information: full citation, abstract, references, citings, index terms

Physical database design is important for query performance in a shared-nothing parallel database system, in which data is horizontally partitioned among multiple independent nodes. We seek to automate the process of data partitioning. Given a workload of SQL statements, we seek to determine automatically how to partition the base data across multiple nodes to achieve overall optimal (or close to optimal) performance for that workload. Previous attempts use heuristic rules to make those decision ...

20 R2-E: cross layer designs and protocols symposium: A distributed P2P network



based on increasing reliability and scalability for internet applications

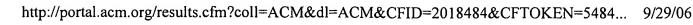
Ben-Jye Chang, Chao-Shu Chen, Ying-Hsin Liang, Hong-Da Lin

July 2006 Proceeding of the 2006 international conference on Communications and mobile computing IWCMC '06

Publisher: ACM Press

Full text available: pdf(2.12 MB) Additional Information: full citation, abstract, references, index terms

In this paper, we propose an efficient, distributed, reliable P2P networks for this purpose, which is called hand-in-hand (HIH) P2P network. First, HIH adopts distributed index servers with unique individual ID as logical ring nodes for storing and managing the file sharing information. Second, HIH adopts a consistent hashing to hash the sharing



filename as a seed and maps the seed to a corresponding index server. The consistent hashing achieves some advantages including, scalable, providing a  $f\dots$ 

**Keywords**: distributed P2P networks, file sharing client/server, index client/server, reliable, resource sharing, scalable

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Relevance scale 🔲 📟 🖬

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Fast detection of communication patterns in distributed executions

Thomas Kunz, Michiel F. H. Seuren

November 1997 Proceedings of the 1997 conference of the Centre for Advanced Studies on Collaborative research

Publisher: IBM Press

Full text available: pdf(4.21 MB)

Additional Information: full citation, abstract, references, index terms

Understanding distributed applications is a tedious and difficult task. Visualizations based on process-time diagrams are often used to obtain a better understanding of the execution of the application. The visualization tool we use is Poet, an event tracer developed at the University of Waterloo. However, these diagrams are often very complex and do not provide the user with the desired overview of the application. In our experience, such tools display repeated occurrences of non-trivial commun ...

From VHDL to efficient and first-time-right designs: a formal approach

Peter F. A. Middelhoek, Sreeranga P. Rajan

April 1996 ACM Transactions on Design Automation of Electronic Systems (TODAES), Volume 1 Issue 2

Publisher: ACM Press

Full text available: pdf(722.99 KB)

Additional Information: full citation, abstract, references, citings, index

In this article we provide a practical transformational approach to the synthesis of correct synchronous digital hardware designs from high-level specifications. We do this while taking into account the complete life cycle of a design from early prototype to full custom implementation. Besides time-to-market, both flexibility with respect to target architecture and efficiency issues are addressed by the methodology. The utilization of user-selected behavior-preserving transformation steps e ...

Keywords: CDFG, SFG, VHDL, correctness by construction, design methodology, rapid system prototyping, transformational design

3 GPGPU: general purpose computation on graphics hardware

David Luebke, Mark Harris, Jens Krüger, Tim Purcell, Naga Govindaraju, Ian Buck, Cliff Woolley, Aaron Lefohn

August 2004 Proceedings of the conference on SIGGRAPH 2004 course notes SIGGRAPH '04

Publisher: ACM Press

Full text available: pdf(63.03 MB) Additional Information: full citation, abstract

The graphics processor (GPU) on today's commodity video cards has evolved into an extremely powerful and flexible processor. The latest graphics architectures provide tremendous memory bandwidth and computational horsepower, with fully programmable vertex and pixel processing units that support vector operations up to full IEEE floating point precision. High level languages have emerged for graphics hardware, making this computational power accessible. Architecturally, GPUs are highly parallel s ...

4 Link and channel measurement: A simple mechanism for capturing and replaying



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wireless channels
Glenn Judd, Peter Steenkiste

August 2005 Proceeding of the 2005 ACM SIGCOMM workshop on Experimental approaches to wireless network design and analysis E-WIND '05

Publisher: ACM Press

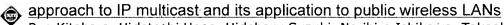
Full text available: pdf(6.06 MB)

Additional Information: full citation, abstract, references, index terms

Physical layer wireless network emulation has the potential to be a powerful experimental tool. An important challenge in physical emulation, and traditional simulation, is to accurately model the wireless channel. In this paper we examine the possibility of using on-card signal strength measurements to capture wireless channel traces. A key advantage of this approach is the simplicity and ubiquity with which these measurements can be obtained since virtually all wireless devices provide the req ...

Keywords: channel capture, emulation, wireless

5 W1-A: medium access control #1: MAPT: network address and port translation



Ryo Kitahara, Hidetoshi Ueno, Hideharu Suzuki, Norihiro Ishikawa, Takaaki Komura, Kenji Fujikawa, Haruo Takagi

July 2006 Proceeding of the 2006 international conference on Communications and mobile computing IWCMC '06

Publisher: ACM Press

Full text available: pdf(412.31 KB) Additional Information: full citation, abstract, references, index terms

IP Multicast has attracted a lot of attention as a cost-effective data delivery technique for music and video broadcasting services. Unfortunately, because most Internet Service Providers don't support IP multicast routing, end-to-end IP multicast is not well supported by the Internet. Therefore we propose a multicast routing method called MAPT (Multicast Address and a port Translation) which uses an address translation technique that converts IP addresses and UDP port numbers. We also propose a ...

Keywords: NAPT, SIP, multicast routing, public wireless LAN

6 Abstraction-based intrusion detection in distributed environments

Peng Ning, Sushil Jajodia, Xiaoyang Sean Wang

November 2001 ACM Transactions on Information and System Security (TISSEC), Volume 4 Issue 4

Publisher: ACM Press

Full text available: pdf(590.61 KB)

Additional Information: full citation, abstract, references, citings, index terms, review

Abstraction is an important issue in intrusion detection, since it not only hides the difference between heterogeneous systems, but also allows generic intrusion-detection models. However, abstraction is an error-prone process and is not well supported in

current intrusion-detection systems (IDSs). This article presents a hierarchical model to support attack specification and event abstraction in distributed intrusion detection. The model involves three concepts: system view, signature ...

Keywords: Cooperative information systems, heterogeneous systems, intrusion detection, misuse detection

7 Phoenix: a parallel programming model for accommodating dynamically

ioining/leaving resources

Kenjiro Taura, Kenji Kaneda, Toshio Endo, Akinori Yonezawa

June 2003 ACM SIGPLAN Notices , Proceedings of the ninth ACM SIGPLAN symposium on Principles and practice of parallel programming PPoPP '03, Volume 38 Issue 10

Publisher: ACM Press

Full text available: pdf(197.86 KB) Additional Information: full citation, abstract, references, index terms

This paper proposes Phoenix, a programming model for writing parallel and distributed applications that accommodate dynamically joining/leaving compute resources. In the proposed model, nodes involved in an application see a large and fixed virtual node name space. They communicate via messages, whose destinations are specified by virtual node names, rather than names bound to a physical resource. We describe Phoenix API and show how it allows a transparent migration of application states ...

Keywords: distributed programming, message passing, migration, parallel programming, resource reconfiguration

Level set and PDE methods for computer graphics

David Breen, Ron Fedkiw, Ken Museth, Stanley Osher, Guillermo Sapiro, Ross Whitaker August 2004 Proceedings of the conference on SIGGRAPH 2004 course notes SIGGRAPH '04

Publisher: ACM Press

Full text available: pdf(17.07 MB) Additional Information: full citation, abstract, citings

Level set methods, an important class of partial differential equation (PDE) methods, define dynamic surfaces implicitly as the level set (iso-surface) of a sampled, evolving nD function. The course begins with preparatory material that introduces the concept of using partial differential equations to solve problems in computer graphics, geometric modeling and computer vision. This will include the structure and behavior of several different types of differential equations, e.g. the level set eg ...

<sup>9</sup> Building a scaleable geo-spatial DBMS: technology, implementation, and evaluation Jignesh Patel, JieBing Yu, Navin Kabra, Kristin Tufte, Biswadeep Nag, Josef Burger, Nancy Hall, Karthikeyan Ramasamy, Roger Lueder, Curt Ellmann, Jim Kupsch, Shelly Guo, Johan Larson, David De Witt, Jeffrey Naughton

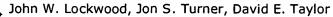
June 1997 ACM SIGMOD Record, Proceedings of the 1997 ACM SIGMOD international conference on Management of data SIGMOD '97, Volume 26 Issue 2

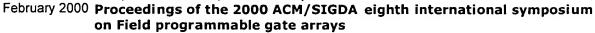
Publisher: ACM Press

Additional Information: <u>full citation</u>, <u>abstract</u>, <u>references</u>, <u>citings</u>, <u>index</u> Full text available: pdf(1.58 MB) terms

This paper presents a number of new techniques for parallelizing geo-spatial database systems and discusses their implementation in the Paradise object-relational database system. The effectiveness of these techniques is demonstrated using a variety of complex geo-spatial queries over a 120 GB global geo-spatial data set.

10 Field programmable port extender (FPX) for distributed routing and queuing



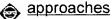


Publisher: ACM Press

Additional Information: full citation, abstract, references, citings, index Full text available: pdf(709.83 KB) terms

Field Programmable Gate Arrays (FPGAs) are being used to provide fast Internet Protocol (IP) packet routing and advanced queuing in a highly scalable network switch. A new module, called the Field-programmable Port Extender (FPX), is being built to augment the Washington University Gigabit Switch (WUGS) with reprogrammable logic.FPX modules reside at the edge of the WUGS switching fabric. Physically, the module is inserted between an optical line card and the WUGS gigabit switch ...

11 Parallelism in relational data base systems: architectural issues and design



Hamid Pirahesh, C. Mohan, Josephine Cheng, T. S. Liu, Pat Selinger

July 1990 Proceedings of the second international symposium on Databases in parallel and distributed systems

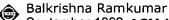
Publisher: ACM Press

Full text available: pdf(2.50 MB)

Additional Information: full citation, abstract, references, citings, index

With current systems, some important complex queries may take days to complete because of: (1) the volume of data to be processed, (2) limited aggregate resources. Introducing parallelism addresses the first problem. Cheaper, but powerful computing resources solve the second problem. According to a survey by Brodie,1 only 10% of computerized data is in data bases. This is an argument for both more variety and volume of data to be moved into data base systems. We conject ...

12 Distributed last call optimization for portable parallel logic programming



September 1992 ACM Letters on Programming Languages and Systems (LOPLAS), Volume 1 Issue 3

**Publisher: ACM Press** 

Full text available: pdf(1.21 MB)

Additional Information: full citation, abstract, references, index terms, review

A difficult but challenging problem is the efficient exploitation of AND and OR parallelism in logic programs without making any assumptions about the underlying target machine (s). In earlier papers, we described the design of a binding environment for AND and OR parallel execution of logic programs on shared and nonshared memory machines and the performance of a compiler (called ROLOG) using this binding environment on a range of MIMD parallel machines. In this paper, we present ...

Keywords: compiler optimizations, parallel logic programming

13 The elements of nature: interactive and realistic techniques

Oliver Deusen, David S. Ebert, Ron Fedkiw, F. Kenton Musgrave, Przemyslaw Prusinkiewicz, Doug Roble, Jos Stam, Jerry Tessendorf

August 2004 Proceedings of the conference on SIGGRAPH 2004 course notes SIGGRAPH '04

Publisher: ACM Press

Full text available: Description | Additional Information: Full citation, abstract

This updated course on simulating natural phenomena will cover the latest research and







production techniques for simulating most of the elements of nature. The presenters will provide movie production, interactive simulation, and research perspectives on the difficult task of photorealistic modeling, rendering, and animation of natural phenomena. The course offers a nice balance of the latest interactive graphics hardware-based simulation techniques and the latest physics-based simulation techni ...

14 Industrial sessions: beyond relational tables: Garlic: a new flavor of federated query



processing for DB2

Vanja Josifovski, Peter Schwarz, Laura Haas, Eileen Lin

June 2002 Proceedings of the 2002 ACM SIGMOD international conference on Management of data SIGMOD '02

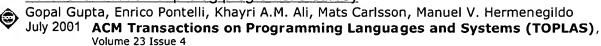
Publisher: ACM Press

Full text available: pdf(1.05 MB)

Additional Information: <u>full citation</u>, <u>abstract</u>, <u>references</u>, <u>citings</u>, <u>index</u> terms

In a large modern enterprise, information is almost inevitably distributed among several database management systems. Despite considerable attention from the research community, relatively few commercial systems have attempted to address this issue. This paper describes new technology that enables clients of IBM's DB2 Universal Database to access the data and specialized computational capabilities of a wide range of non-relational data sources. This technology, based on the Garlic prototype deve ...

15 Parallel execution of prolog programs: a survey



Publisher: ACM Press

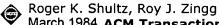
Full text available: pdf(1.95 MB)

Additional Information: <u>full citation</u>, <u>abstract</u>, <u>references</u>, <u>citings</u>, <u>index</u> terms

Since the early days of logic programming, researchers in the field realized the potential for exploitation of parallelism present in the execution of logic programs. Their high-level nature, the presence of nondeterminism, and their referential transparency, among other characteristics, make logic programs interesting candidates for obtaining speedups through parallel execution. At the same time, the fact that the typical applications of logic programming frequently involve irregular computatio ...

**Keywords**: Automatic parallelization, constraint programming, logic programming, parallelism, prolog

16 Response Time Analysis of Multiprocessor Computers for Database Support



March 1984 ACM Transactions on Database Systems (TODS), Volume 9 Issue 1

Publisher: ACM Press

Full text available: pdf(2.27 MB)

Additional Information: <u>full citation</u>, <u>abstract</u>, <u>references</u>, <u>citings</u>, <u>index</u> terms

Comparison of three multiprocessor computer architectures for database support is made possible through evaluation of response time expressions. These expressions are derived by parameterizing algorithms performed by each machine to execute a relational algebra query. Parameters represent properties of the database and components of the machines. Studies of particular parameter values exhibit response times for conventional machine technology, for low selectivity, high duplicate occurrence, ...

17 Collision detection and proximity queries

Sunil Hadap, Dave Eberle, Pascal Volino, Ming C. Lin, Stephane Redon, Christer Ericson



# August 2004 Proceedings of the conference on SIGGRAPH 2004 course notes SIGGRAPH '04

Publisher: ACM Press

Full text available: Right pdf(11.22 MB) Additional Information: full citation, abstract

This course will primarily cover widely accepted and proved methodologies in collision detection. In addition more advanced or recent topics such as continuous collision detection, ADFs, and using graphics hardware will be introduced. When appropriate the methods discussed will be tied to familiar applications such as rigid body and cloth simulation, and will be compared. The course is a good overview for those developing applications in physically based modeling, VR, haptics, and robotics.

## 18 A robust protocol for parallel join operation in distributed data bases

S. Bandyopadhyay, A. Sengupta

January 2000 Proceedings of the first international symposium on Databases in parallel and distributed systems

**Publisher: IEEE Computer Society Press** 

Full text available: pdf(1.23 MB)

Additional Information: full citation, abstract, references, citings, index terms

Fault tolerant distributed databases use replicated data(e.g., record or relation) to handle failures of one or more nodes in a computer network. Efficient and economic access strategies for such data bases have not been investigated. In this paper, the binary hypercube, a popular model for fault tolerant interconnection networks, has been studied. It has been shown that, for a local area network based on a binary hypercube, having 2r nodes where every data is replicate ...

## 19 Implementation of a portable software DSM in Java

Yukihiko Sohda, Hidemoto Nakada, Satoshi Matsuoka

June 2001 Proceedings of the 2001 joint ACM-ISCOPE conference on Java Grande Publisher: ACM Press

Full text available: 📆 pdf(896.77 KB) Additional Information: full citation, abstract, references, index terms

Rapid commoditization of advanced hardware and progress of networking technology is now making wide area high-performance computing a.k.a. the 'Grid' Computing a reality. Since a Grid will consist of vastly heterogeneous sets of compute nodes, especially commodity clusters, some have articulated the use of Java as a suitable technology to satisfy portability across different machines. Since Java's natural model parallelism is shared memory multithreading, one will have to support distributed ...

## 20 A scalable content-addressable network

Sylvia Ratnasamy, Paul Francis, Mark Handley, Richard Karp, Scott Schenker
August 2001 ACM SIGCOMM Computer Communication Review, Proceedings of the
2001 conference on Applications, technologies, architectures, and
protocols for computer communications SIGCOMM '01, Volume 31 Issue 4

Publisher: ACM Press

Full text available: pdf(155.64 KB)

Additional Information: full citation, abstract, references, citings, index terms

Hash tables - which map "keys" onto "values" - are an essential building block in modern software systems. We believe a similar functionality would be equally valuable to large distributed systems. In this paper, we introduce the concept of a Content-Addressable Network (CAN) as a distributed infrastructure that provides hash table-like functionality on Internet-like scales. The CAN is scalable, fault-tolerant and completely self-organizing, and we demonstrate its scalability, robustness and low ...

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Proceeding

IEE CNF

IEE Conference

Proceeding

IEEE STD IEEE Standard

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1. Aggregate-join query processing in parallel database systems

Taniar, D.; Jiang, Y.; Liu, K.H.; Leung, C.H.C.;

High Performance Computing in the Asia-Pacific Region, 2000. Proceedings. 1

International Conference/Exhibition on

Volume 2, 14-17 May 2000 Page(s):824 - 829 vol.2 Digital Object Identifier 10.1109/HPC.2000.843554

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IEE JNL	IEE Journal or Magazine	4. Mahila NadalD haard DOD algorithm for the hoters are not und
IEEE CNF	IEEE Conference Proceeding	Mobile NodelD based P2P algorithm for the heterogeneous network     Kyungbaek Kim; Daeyeon Park;     Embedded Software and Systems, 2005. Second International Conference on
IEE CNF	IEE Conference Proceeding	16-18 Dec. 2005 Page(s):8 pp. Digital Object Identifier 10.1109/ICESS.2005.69
IEEE STD	IEEE Standard	AbstractPlus   Full Text: PDF(656 KB)   IEEE CNF   Rights and Permissions
		2. Enhancing locality in structured peer-to-peer networks Ferreira, R.A.; Jagannathan, S.; Grama, A.; Parallel and Distributed Systems, 2004. ICPADS 2004. Proceedings. Tenth Int Conference on 7-9 July 2004 Page(s):25 - 34 Digital Object Identifier 10.1109/ICPADS.2004.1316077
		AbstractPlus   Full Text: PDF(330 KB) IEEE CNF Rights and Permissions
		3. A new multicast-based architecture to support host mobility in IPv6 Ali, B.M.; Habaebi, M.H.; Al-Talib, S.; Communications, 2003. APCC 2003. The 9th Asia-Pacific Conference on Volume 2, 21-24 Sept. 2003 Page(s):623 - 629 Vol.2

Digital Object Identifier 10.1109/APCC.2003.1274433

AbstractPlus | Full Text: PDF(389 KB) | IEEE CNF

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4. FS-Chord: A New P2P Model with Fractional Steps Joining Г

Xue Kaiping; Hong Peilin; Li Jinsheng;

Telecommunications, 2006. AICT-ICIW '06. International Conference on Intern

Applications and Services/Advanced International Conference on

19-25 Feb. 2006 Page(s):98 - 98

Digital Object Identifier 10.1109/AICT-ICIW.2006.102

AbstractPlus | Full Text: PDF(144 KB) | IEEE CNF

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5. A fast and highly adaptive peer-to-peer lookup system for medium-scale Jaesun Han; Keuntae Park; Woojin Kim; Daeyeon Park; Computers and Communication, 2003. (ISCC 2003). Proceedings. Eighth IEEI Symposium on

2003 Page(s):1041 - 1046 vol.2

Digital Object Identifier 10.1109/ISCC.2003.1214252

AbstractPlus | Full Text: PDF(370 KB) | IEEE CNF

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#### 6. SCALLOP: a scalable and load-balanced peer-to-peer lookup protocol Г

Chou, J.C.-Y.; Tai-Yi Huang; Kuang-Li Huang; Tsung-Yen Chen;

Parallel and Distributed Systems, IEEE Transactions on

Volume 17, Issue 5, May 2006 Page(s):419 - 433

Digital Object Identifier 10.1109/TPDS.2006.66

AbstractPlus | Full Text: PDF(4584 KB) | IEEE JNL

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#### 7. Low-Bandwidth Topology Maintenance for Robustness in Structured Ove

Ghodsi, A.; Alima, L.O.; Haridi, S.;

System Sciences, 2005. HICSS '05. Proceedings of the 38th Annual Hawaii In:

Conference on

03-06 Jan. 2005 Page(s):302a - 302a

Digital Object Identifier 10.1109/HICSS.2005.394

AbstractPlus | Full Text: PDF(1056 KB) IEEE CNF

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#### 8. Neighbor table construction and update in a dynamic peer-to-peer network

Huaiyu Liu; Lam, S.S.;

Distributed Computing Systems, 2003. Proceedings, 23rd International Conference

19-22 May 2003 Page(s):509 - 518

Digital Object Identifier 10.1109/ICDCS.2003.1203501

AbstractPlus | Full Text: PDF(610 KB) | IEEE CNF

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#### 9. An improvement of ODMRP for reliable delivery of busty traffic Г

Ganguli, A.; Nandi, S.; Meher, P.K.;

TENCON 2003. Conference on Convergent Technologies for Asia-Pacific Regi

Volume 3, 15-17 Oct. 2003 Page(s):1067 - 1071 Vol.3 Digital Object Identifier 10.1109/TENCON.2003.1273411

AbstractPlus | Full Text: PDF(406 KB) IEEE CNF

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#### 10. Restricted dynamic Steiner trees for scalable multicast in datagram netw

Aharoni, E.; Cohen, R.;

Networking, IEEE/ACM Transactions on

Volume 6, Issue 3, June 1998 Page(s):286 - 297

Digital Object Identifier 10.1109/90.700892

AbstractPlus | References | Full Text: PDF(332 KB) | IEEE JNL

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#### Г 11. Hash-based proximity clustering for load balancing in heterogeneous DH

Haiying Shen; Cheng-Zhong Xu;

Parallel and Distributed Processing Symposium, 2006. IPDPS 2006. 20th Inter

25-29 April 2006 Page(s):10 pp.

Digital Object Identifier 10.1109/IPDPS.2006.1639279

AbstractPlus | Full Text: PDF(176 KB) IEEE CNF

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#### Г 12. Bandwidth-efficient multicast routing for multihop, ad-hoc wireless netwo

Ozaki, T.; Jaime Bae Kim; Suda, T.;

INFOCOM 2001. Twentieth Annual Joint Conference of the IEEE Computer ar

Communications Societies. Proceedings. IEEE

Volume 2, 22-26 April 2001 Page(s):1182 - 1191 vol.2

Digital Object Identifier 10.1109/INFCOM.2001.916313

AbstractPlus | Full Text: PDF(140 KB) | IEEE CNF

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#### 13. A distributed approach to node clustering in decentralized peer-to-peer n

Lakshmish Ramaswamy; Gedik, B.; Liu, L.;

Parallel and Distributed Systems, IEEE Transactions on

Volume 16, Issue 9, Sept. 2005 Page(s):814 - 829

Digital Object Identifier 10.1109/TPDS.2005.101

AbstractPlus | Full Text: PDF(1568 KB) IEEE JNL

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## 14. Load-balancing routing in multichannel hybrid wireless networks with sin interface

Jungmin So; Vaidya, N.H.;

Vehicular Technology, IEEE Transactions on

Volume 55, Issue 3, May 2006 Page(s):806 - 812

Digital Object Identifier 10.1109/TVT.2006.874550

AbstractPlus | Full Text: PDF(224 KB) | IEEE JNL

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## 15. Dynamic critical-path scheduling: an effective technique for allocating tamultiprocessors

Yu-Kwong Kwok; Ahmad, I.;

Parallel and Distributed Systems, IEEE Transactions on

Volume 7, Issue 5, May 1996 Page(s):506 - 521

Digital Object Identifier 10.1109/71.503776

AbstractPlus | References | Full Text: PDF(1916 KB) | IEEE JNL

Rights and Permissions

### 16. Chord: a scalable peer-to-peer lookup protocol for Internet applications

Stoica, I.; Morris, R.; Liben-Nowell, D.; Karger, D.R.; Kaashoek, M.F.; Dabek, I H.;

Networking, IEEE/ACM Transactions on

Volume 11, Issue 1, Feb. 2003 Page(s):17 - 32

Digital Object Identifier 10.1109/TNET.2002.808407

AbstractPlus | References | Full Text: PDF(674 KB) | IEEE JNL

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# 17. Load balancing routing in multi-channel hybrid wireless networks with si interface

Jungmin So; Vaidya, N.H.;

Quality of Service in Heterogeneous Wired/Wireless Networks, 2005. Second

Conference on

22-24 Aug. 2005 Page(s):8 pp.

Digital Object Identifier 10.1109/QSHINE.2005.30

AbstractPlus | Full Text: PDF(376 KB) IEEE CNF

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#### 18. On static and dynamic partitioning behavior of large-scale networks

Leonard, D.; Yao, Z.; Wang, X.; Loguinov, D.;

Network Protocols, 2005. ICNP 2005. 13th IEEE International Conference on

6-9 Nov. 2005 Page(s):13 pp.

Digital Object Identifier 10.1109/ICNP.2005.27

AbstractPlus | Full Text: PDF(400 KB) IEEE CNF

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# 19. Detection and Repair of Software Errors in Hierarchical Sensor Networks Herbert, D.; Yung-Hsiang Lu; Bagchi, S.; Zhiyuan Li;

Sensor Networks, Ubiquitous, and Trustworthy Computing, 2006. IEEE International Conference on

Volume 1, 05-07 June 2006 Page(s):403 - 410

AbstractPlus | Full Text: PDF(352 KB) | IEEE CNF

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### 20. Bandwidth and latency model for DHT based peer-to-peer networks unde

Kumar, P.; Sridhar, G.; Sridhar, V.;

Systems Communications, 2005, Proceedings

14-17 Aug. 2005 Page(s):320 - 325

Digital Object Identifier 10.1109/ICW.2005.31

AbstractPlus | Full Text: PDF(152 KB) | IEEE CNF

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#### 21. ReCord: A Distributed Hash Table with Recursive Structure

Jianyang Zeng; Wen-Jing Hsu;

Parallel and Distributed Computing, Applications and Technologies, 2005. PDC

International Conference on

05-08 Dec. 2005 Page(s):16 - 20

Digital Object Identifier 10.1109/PDCAT.2005.196

AbstractPlus | Full Text: PDF(232 KB) | IEEE CNF

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#### 22. A Concentric Multi-ring Overlay for Highly Reliable P2P Networks

Wepiwe, G.; Simeonov, P.L.;

Network Computing and Applications, Fourth IEEE International Symposium o

27-29 July 2005 Page(s):83 - 90

Digital Object Identifier 10.1109/NCA.2005.1

AbstractPlus | Full Text: PDF(312 KB) | IEEE CNF

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### 23. HAR: hierarchy-based anycast routing protocol for wireless sensor networks

Thepvilojanapong, N.; Tobe, Y.; Sezaki, K.;

Applications and the Internet, 2005. Proceedings. The 2005 Symposium on

31 Jan.-4 Feb. 2005 Page(s):204 - 212

Digital Object Identifier 10.1109/SAINT.2005.34

AbstractPlus | Full Text: PDF(216 KB) | IEEE CNF

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#### 24. Performance and dependability of structured peer-to-peer overlays

Castro, M.; Costa, M.; Rowstron, A.;

Dependable Systems and Networks, 2004 International Conference on

28 June-1 July 2004 Page(s):9 - 18

Digital Object Identifier 10.1109/DSN.2004.1311872

AbstractPlus | Full Text: PDF(541 KB) | IEEE CNF

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#### 25. Cycloid: a constant-degree and lookup-efficient P2P overlay network

Shen, H.; Xu, C.-Z.; Guihai Chen;

Parallel and Distributed Processing Symposium, 2004. Proceedings. 18th Inter

26-30 April 2004 Page(s):26

Digital Object Identifier 10.1109/IPDPS.2004.1302935

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The Entity Join - Kent - Cited by 8

Eager aggregation and lazy aggregation - Yan - Cited by 113

A New Rough Sets Model Based on Database Systems - Hu - Cited by 17

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Detach That Results in a **Table** with Hash Fragmentation (XPS) ... Using the USING or FROM Keyword to Introduce a **Join** Condition (XPS) ... publib.boulder.ibm.com/infocenter/idshelp/v10/topic/com.ibm.sqls.doc/sqls02.htm - 172k - Cached - Similar pages

## OASIS - Specs/Documents - Table Models

As its **first** major task, the Committee therefore set out to **identify** and document ambiguities in the CALS **table** model specifications, **identify** and document ... www.oasis-open.org/specs/tablemodels.shtml - 20k - <u>Cached</u> - <u>Similar pages</u>

### **Data Model Dictionary**

Domain - A way of **identifying** and grouping the types of data items in the model. ... You create **join** relationships when you know that the underlying **tables** ... www.datamodel.org/DataModelDictionary.html - 42k - <u>Cached</u> - <u>Similar pages</u>

#### Relational Model: Normalization

A relational **table**, by **definition**, is in **first** normal form. ... **Identify** any determinants other than the composite key, and the columns they determine. ... www.utexas.edu/its/windows/database/datamodeling/rm/rm7.html - 31k - Cached - Similar pages

#### [PDF] Jena Property Table Design

File Format: PDF/Adobe Acrobat - View as HTML Property table definition. Property tables for a gr.

Property **table definition**. Property **tables** for a graph (model) must be ... ing point and should support access to an interesting **subset** of legacy **tables**. ... jena.hpl.hp.com/juc2006/proceedings/wilkinson/paper.pdf - Similar pages

#### <u>TOPCAT - Tool for OPerations on Catalogues And Tables</u>

In the **first** two **subset definition** methods above, the current **subset** will be ... the **first table**, somehow **identifying** in the second **table** which row "refers ... www.starlink.rl.ac.uk/cgi-bin/htxserver/sun253.htx/sun253.html - 185k - Cached - Similar pages

#### [РРТ] www.wellesley.edu/Dbsystems/Datamart/web\_summit.ppt

File Format: Microsoft Powerpoint - <u>View as HTML</u> **Subset** of fields in fact **table**; Very close to anticipated

**Subset** of fields in fact **table**; Very close to anticipated queries ... func **definition**: constituent **first** name; tech **definition**: spriden\_first\_name ... ... Similar pages

## 5 Schema Objects

Similarly, you can replicate the definition of a temporary table, ... materialized views are used to download a subset of data from central servers to ... www.stanford.edu/dept/itss/docs/oracle/10g/server.101/b10743/schema.htm - 167k -Cached - Similar pages

#### 3. The Relational Model.

A definition of the relational model has been attempted by CJ Date [2]. ... JOIN. Associates entries from two tables on the basis of matching column values. ... www.soi.city.ac.uk/~tony/dbms/relational\_dm.html - 22k - Cached - Similar pages

SQL Statements: CREATE TYPE to DROP ROLLBACK SEGMENT, 5 of 26 For a DELETE statement, if the join results in more than one key-preserved table, then Oracle deletes from the first table named in the FROM clause, ... www.lc.leidenuniv.nl/awcourse/oracle/server.920/a96540/statements 85a.htm - 57k -Cached - Similar pages

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Maximum Security -- Appendix A -- How to Get More Information

Jamie Jaworski and Cary Jardin. ISBN: 1-57521-069-X. 1996. Java Developer's Journal. http://www.javadevelopersjournal.com/java/. Java Developer's Reference. ... newdata.box.sk/bx/hacker/apa/apa.htm - 81k - Cached - Similar pages

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EP1116367 Intel european software patent - Method and system for ... Jardin, Cary, A. (US). ECLA · H04L29/06; H04L29/06C6A; H04L29/06C6B · IPC · H04L29/06 · Priority. WO2000US13047 20000511; US19990345575 19990630 ... gauss.ffii.org/PatentView/EP1116367 - 56k - Cached - Similar pages

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by **Cary Jardin**, Date Added: Friday 30 September, 2005. Removal rate is amazing. Originally ordered the 7"X5/8"-11 DOUBLE ROW CUPWHEEL-CONCRETE but Defusco ... www.defusco.com/product\_reviews\_info.php?products\_id=2008&reviews\_id=11 - 59k - Cached - Similar pages

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[56] Kirby RS, Roehrborn CG, Boyle P, Bartsch G, Jardin A, Cary MM, et al. Efficacy and tolerability of doxazosin and finasteride, alone or ...
www.urotoday.com/prod/pdf/reviews/ReviewMedicalBPH.pdf - Similar pages

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 storing a first portion of first table and a first pc
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 Advanced Search Preferences

The "AND" operator is unnecessary -- we include all search terms by default. [details]

Web Results 1 - 10 of about 7,760,000 for storing a first portion of first table and a first portion of a second

# <u>Product search results for storing a first portion of first table and a first portion of a second table of a first node</u>



Sony DSC-V3 Digital Camera w/ Enthusiast Cybershot Kit - \$639.95 - Digital Innovations
Fuse X200 AMD X2 3800+ AM2 nVidia 512MB 7900GS X-Fi ... - \$1,297.00 - SpeedTech Computers

### <u>Inverstments For Always - Business</u>

If the cache memory is available to be shared, a **first portion** of the cache memory ... A **second table** of entries associates the target intensity values with ... homeseminars4u.com/ - 76k - Sep 28, 2006 - <u>Cached</u> - <u>Similar pages</u>

### esp@cenet claims view

obtaining a **second** value associated with the least significant **portion** from a **second table**; and wherein said step of accumulating the obtained **first** value ... v3.espacenet.com/textclam?IDX=EP1032892&QPN=EP1032892 - 40k - Cached - Similar pages

#### esp@cenet claims view

making a **first** entry in the address **table** based upon a header of the **first** ....for an entry matching a **portion** of a **first** header of a received **first** packet; ... v3.espacenet.com/textclam?IDX=EP1004219&QPN=EP1004219 - 31k - Cached - Similar pages

### Feature: High Memory In The Linux Kernel

kernel-mapped virtual memory covers \*first\* 1GB of physical ... The 896 MB portion of the kernel address space can reasonably be considered RAM (or rather ... kerneltrap.org/node/2450 - 82k - Sep 28, 2006 - Cached - Similar pages

#### Globally or selectively disabling branch history table operations ...

The **first table** is a branch history **table** associated with the **first** set of instructions and the **second table** is a branch history **table** associated with the ... www.freepatentsonline.com/6108776.html - 37k - <u>Cached</u> - <u>Similar pages</u>

#### webservices.xml.com: Web Services Security for Java

For example, a client application can **first** add a security token to a SOAP message, then sign a **portion** of the message, then encrypt a part of a message, ... webservices.xml.com/pub/a/ws/2003/10/28/jwss.html - 44k - <u>Cached</u> - <u>Similar pages</u>

## XHTML by Example: A Hybrid Layout (Part I) > First Pass Markup ...

Navigational Markup: The **First Table** ... To keep things interesting, we'll tell you in advance that this **portion** of the markup, although it validates, ... www.peachpit.com/articles/article.asp?p=98827&segNum=3 - 27k - Cached - Similar pages

## EP1363189 St european software patent - Apparatus and method for ...

Normally, the cache controller **portion** of PMC 152 uses a Least Recently Used ... reading from an associated memory a patch **table** containing a **first table** ... gauss.ffii.org/PatentView/EP1363189 - 47k - <u>Cached</u> - <u>Similar pages</u>

Portable Network Graphics (PNG) Specification (Second Edition)

The PNG image types and corresponding colour types are listed in **Table** 6.1. ... The **first** entry in PLTE is referenced by pixel value 0, the **second** by pixel ... www.w3.org/TR/PNG/ - 312k - <u>Cached</u> - <u>Similar pages</u>

Windows NT and Windows 2000 - Inside the Registry

The **second** field in the cell index specifies the entry in the cell map **table** that the **first** index field identified. That entry locates the bin and block ... www.microsoft.com/technet/archive/winntas/tips/winntmag/inreg.mspx - 42k - Cached - Similar pages

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**1** <u>2</u> <u>3</u> <u>4</u> <u>5</u> <u>6</u> <u>7</u> <u>8</u> <u>9</u> <u>10</u>

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